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THE TREATMENT OF PERSISTENT PAIN OF ORGANIC ORIGIN IN THE LOWER PART OF THE BODY BY DIVISION OF THE ANTEROLATERAL COLUMN OF THE SPINAL CORD

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REMARKS BY DR. SPILLER

Occasionally the pain from tumor of the cauda equina is so intense that complete division of the spinal cord has been suggested for its relief, and it is only recently that I have seen a case in which this measure had been proposed. If division of the anterolateral columns alone will remove pain, it may be possible, if the other parts of the cord be left intact, to avoid paralysis of the lower limbs and of the bowels and bladder by this operation. It probably would produce ataxia. Such an operation may be considered only in extreme cases when life has become almost a burden because of severe suffering.

A. Schüller[1] has suggested that as a substitution operation partial division of the spinal cord might be employed instead of section of the posterior roots for spasticity and gastric crises. The posterior columns, he suggests, might be cut for spasticity either alone or with the direct cerebellar tracts; the anterolateral columns might be cut for gastric crises. He reported no cases in which this operation was performed, and he advised it for these two conditions.

I would suggest that the operation of division of the anterolateral columns is applicable for pain independent of gastric crises, and that it may be much more than an *Ersatzoperation* for division of the posterior roots. So far as I know, the case reported in this paper is the only one in which this operation has been done.

On what is this operation for the relief of persistent pain based? Are fibers of pain confined to one system within the spinal cord, and if so, can pain sensations be conveyed by other systems when the fibers usually employed for this purpose are destroyed? These are important questions.

Head and Holmes,[2] in their recent Croonian lectures, refer to the work of Rivers and Head, in which it was shown that beneath the skin, independent of all "touch" and "pain spots," lies an afferent system capable of a wide range of functions. Pressure which in ordinary life would be called a touch can be appreciated and localized with considerable accuracy. Increase of pressure, especially on bones and tendons, will cause pain. In the peripheral mechanism, therefore, there are two independent mechanisms for the initiation of pain. Within the spinal cord, however, the conditions are different. All impulses capable of generating pain become grouped together in the same path and can be disturbed simultaneously by an appropriate lesion of the spinal cord. In the same way, sensibility to heat or cold may be lost independently of one another, showing that all the impulses on which they are based have been sorted out into two functional groups, each of which passes by a separate system in the spinal cord. It should be possible, therefore, to divide the tracts for the conduction of pain sensation with little damage to the rest of the cord, except that the fibers of temperature sensation probably would be implicated. It is questionable whether objective disturbance of sensation would be produced by such an operation, and, if it were, whether it would be persistent.

Fabritius[3] recently has stated that little attention has been paid in neurology to the late results of interruption of the temperature and pain tracts in the spinal cord. It is in general assumed that the disturbance in these sensations gradually disappears, but if one attempts to determine on what this opinion depends he meets with difficulty. Fabritius was not able to find any extensive investigation of this subject, and he attempts to fill the gap by collecting cases from the literature. The summary of his findings is that after stab-wounds of the spinal cord no regularity exists in the restoration of pain and temperature sensations. In the majority of the cases (twenty-three out of thirty-five) temperature sensation seems to have been permanently lost. Pain sensation returned more frequently, but in diminished intensity, namely in eighteen out of thirty-eight cases, but was permanently lost in sixteen cases. It is questionable whether all the statements regarding sensation in these cases can be accepted as accurate.

Rothmann,[4] in a paper read at the recent meeting of the Gesellschaft deutscher Nervenärzte, gave as the results of his investigations that pain sensations are conducted essentially through the anterior part of the lateral column, and that the gray matter may be concerned in this function, but concerning the latter statement the report is not very definite.

The work of Petrén[5] and my own studies[6] of the location of pain fibers within the spinal cord lead to the conclusion that fibers for the conduction of pain are located in the anterolateral columns.

1. Schüller: Wien. med. Wchnschr., 1910, p. 2292.
2. Head and Holmes: Lancet, London, Jan. 6, 1912.
3. Fabritius: Monatschr. f. Psychiat., u. Neurol., January, 1912.
4. Rothmann: Monatschr. f. Psychiat. u. Neurol, January, 1912, p. 81.
5. Petrén: Arch. f. Psychiat., xlvii, 495.
6. Spiller: Univ. of Penn. Med. Bull., July and August, 1905.

In order to make a test of this reasoning in a very severe case of tumor of the lower part of the cord, when pain was intolerable, I referred a patient to Dr. Edward Martin for division of the anterolateral column on each side. Dr. W. B. Cadwalader and Dr. J. E. Sweet later performed the same operation on dogs to further our knowledge in respect to the function of these columns.

Patient.—A man, aged 47, was admitted to the Philadelphia General Hospital, March 8, 1909, in my service, and came later under the care of my colleagues on the staff. He had had pain for two months in the knees and ankles, and at the time of admission had pain about the pelvis. The pain increased, and by August, 1909, he complained greatly of it and had almost complete flaccid paralysis of the lower limbs, with loss of tendon-reflexes, and paralysis of bladder and rectum. He had anesthesia over the buttocks and external genitalia and down the back of the thighs. The lower limbs were atrophied and faradic contractility was diminished.

Diagnosis.—In November, 1909, introduction of the finger into the rectum caused no contraction of the internal or external sphincter. Dr. W. P. Heara operated and found a growth on the left side and lower part of the spinal cord about as large as a goose-egg, the cord being implicated by the tumor. It was regarded as malignant and irremovable.

In January, 1910, the man came again into my service and notes taken by me at that time record that he had very slight movement at each hip and in the left knee, and no movement elsewhere in the lower limbs. These limbs were greatly wasted. Sensations of touch, pain, heat and cold were lost in the back of each thigh and in all parts of the legs below the knees, although deep pin-prick seemed to be felt in the left calf and left foot. The tendon-reflexes were lost and the legs were contracted on the thighs and the thighs on the abdomen. Sensation in its various forms was preserved in the abdomen and front of the thighs. The man suffered greatly from pain in the lower limbs and required morphin every night for relief.

Operation.—The division of each anterolateral column was performed by Dr. Martin, Jan. 19, 1911. On January 22, there was great relief of pain in both lower limbs. The patient appeared very grateful for the relief from suffering and received only 1/6 grain morphin on the day following the operation and a similar amount two days later, and this was given for the pain caused by the operation. The intern on the surgical service, who had the opportunity of observing the man constantly, believed that he was not suffering pain in the lower limbs. Sensation in its various forms objectively tested did not seem to be much impaired above the hip-joints. Pain was felt occasionally in the lower limbs during the three weeks following the operation, but the man was positive that it was less than before the operation.

Course.—In March, 1912, when he was again under my care, he lay in bed with his lower limbs greatly contracted and atrophied. Objective sensation was lost in the front of the thighs, but pain and pin-prick sensations were keen over the lower abdomen. His countenance expressed no pain and he never complained unless he was asked concerning his condition, when he would reply that he sometimes had pain. As he is a foreigner and not very intelligent, and his condition is pitiable, it is hard to judge whether he really has any pain from the tumor. The operation seems to have been successful in the diminution of pain. I should be unwilling to form an incorrect judgment regarding this case. When one remembers, however, that the pain from a malignant tumor of the lower part of the cord usually is excruciating and continues as the tumor implicates additional posterior roots, I think it may be said that the peaceful expression of this man's face is evidence that he has been greatly relieved by the operation. He has certainly not been made any worse, as his condition before the operation was very grave.

REMARKS BY DR. EDWARD MARTIN

The problem presented by Dr. Spiller was the making of a transverse cut into the spinal cord, roughly 2 mm. in length, of a similar depth and with its posterior end 3 mm. anterior to the entrance of the posterior root, this cut to be bilateral. The only special instrument required was a small thin-bladed cataract knife, double-edged on its angled point, the latter being about 5 mm. long. Since in this individual case there was no need for conservation of the bone, the laminæ and spinous processes of the sixth, seventh and eighth dorsal vertebræ were removed. The dura was split, retracted by threads, the cord was slightly lateralized by passing threads about the posterior roots and gently using them as tractors, and the cord incision was made on each side with very little bleeding. The wound was closed without drainage and, in so far as it was concerned, the after-course was uneventful.

The approach to the cord is greatly simplified and expedited — although it was not done in this case — by the use of the Hudson trephine and the Cryer bone-cutting instrument. By the help of these tools it is possible rapidly and safely to obtain, by unilateral resection, preserving the spinous processes, an exposure adequate for many forms of dural and cord intervention. It would certainly be so for a limited section, such as was practiced in this case, or for section of posterior roots. Such exposure leaves little or no subsequent crippling so far as the spinal column is concerned and is much simpler than an osteoplastic flap. In case of unilateral pain, uncontrollable by other means, cord section on the side opposite to that in which the pain is felt and sufficiently high to allow for the decussation of sensory fibers should be adequate.

2046 Chestnut Street.—1506 Locust Street.

V. 58
1912

EXPERIMENTAL WORK ON THE FUNCTION OF THE ANTEROLATERAL COLUMN OF THE SPINAL CORD

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The present investigation was undertaken at the suggestion of Dr. William G. Spiller, in order to determine what symptoms would be produced by destroying the anterolateral column, including Gowers' tract. In Gowers' original observation[1] he referred to a group of fibers situated in the anterolateral columns of the cord, which underwent degeneration from a lesion of the eleventh thoracic segment. He traced these degenerated fibers upward as far as the cervical region, and believed that they were concerned in the transmission of painful stimuli from the opposite side of the body.

Since that time innumerable clinical and pathologic studies seem to confirm Gowers' first impression. Experiments on animals, however, have not always lent support to this opinion, the results in some instances having been very confusing and even contradictory; indeed, Mott,[2] after cutting this tract in monkeys, concluded that its function was unknown. Bing,[3] experimenting on dogs, observed ataxia without disturbance of cutaneous sensa-

1. Gowers: Diagnosis of the Diseases of the Cord, 1879.
2. Mott: Brain, 1895, xviii, 1.
3. Bing: Die Bedeutung der spinocerebellaren Systeme, Wiesbaden, 1907, Neurol. Centralbl., 1912, p. 270.

tion, but in his cases, as in Marburg's,[4] the area destroyed was chiefly the dorsal cerebellar tract or close to it. Bruce and Schäfer[5] conducted similar experiments on monkeys in which only the ventrolateral region was destroyed; they not only found sensation entirely normal, but, unlike Bing, could not demonstrate any sign of ataxia, though paralysis did occur. On the other hand, Lewandowsky,[6] Rothmann[7] and others rather positively state that section of Gowers' tract in dogs does produce a certain degree of analgesia.

In the following experiments our object was to completely destroy the anterolateral region, including Gowers' tract, and not to injure the area occupied by the dorsal cerebellar tract or any part of the gray matter. Dogs were chosen for purely extraneous reasons.

Under complete ether anesthesia an incision was made over two spinous processes and carried down directly to the bone; this incision was carried on as a subperiosteal resection of the processes and the laminæ of the vertebræ, until the cord was exposed for about 3 cm. The dura was slit longitudinally in the midline and retracted on either side; the cord was then rolled over as gently as possible till the line of insertion of the ligamentum denticulatum was identified, believing this to correspond quite accurately to the posterior limits of the anterolateral tract; a small knife was inserted immediately in front of that point and thrust obliquely forward, then cutting outward through the periphery of the cord. A similar incision was made at the corresponding point on the opposite side. There was little hemorrhage. The dura was closed with a fine silk suture and the wound repaired with catgut. Iodin and collodion were used for dressing. Wound healing was perfectly normal.

The dogs were carefully watched from day to day; generally the first observations recorded were made a day or two after operation, so that the effects of the operation itself might not be mistaken. Here we wish to point out one possible source of confusion. Any one at all familiar with animals, particularly the laboratory dog, should not lose sight of the fact that their general conduct and intelligence influences the manner in which they react to stimuli of any kind; even in health this may differ very greatly. Each dog has his own peculiarity, and has a distinct individuality not unlike man. Many are extremely dull and apathetic and others high-strung, intelligent and active, and accustomed to responding quickly to the various stimuli originating through the association of friends and master. No doubt it was a thorough appreciation of these facts which led Lewandowsky and Kallisher to adopt their methods of training. Our dogs were not trained; nevertheless a careful estimate of individual traits and temperament was constantly kept in mind. In considering disturbances of sensation these facts are of the utmost importance and have therefore been referred to in detail.

After a period of time the dogs were killed and the brains and cords immediately removed and placed in Müller's fluid. The segment in which the incision had been made was mounted in celloidin and cut in serial sections in order to ascertain the exact limits of the area destroyed; sections were also made from each segment of the cord and parts of the medulla and pons, so that the course of degeneration could be followed.

4. Marburg: Arch. f. Physiol., suppl., 1904, p. 457.
5. Bruce and Schäfer: Quart. Jour. Exper. Physiol., 1910, No. 3.
6. Lewandowsky: Handbuch der Neurologie, pp. 773 and 779.
7. Rothmann: Berl. klin. Wchnschr., 1908, No. 2, p. 47; ibid., 1901; Arch. f. Physiol., 1902, p. 154; Suppl., 1902, p. 440; Ztschr. f. klin Med., 1902, xliv, 183; Neurol. Centralbl., 1911, p. 1207.

In the following descriptions of cases the data have been given chronologically so as to show the course of the general symptomatology; then follows the microscopic study.

Dog 1.—Black and tan, short-haired male dog, weighing about 25 pounds. Operation Dec. 4, 1911. Cutting the anterolateral column of both sides in the seventh thoracic segment.

December 5: Incomplete weakness of both hind legs, more marked on right. Dog can stand but often falls behind. After falling it can rise on hind legs without evidence of weakness, but is awkward and can only stand a second or two before again falling. It frequently assumes curious positions as if kneeling, or may stand with right foot flexed so that dorsum of foot touches the floor; sometimes sits with weight on one leg which is crossed under rump. These positions do not seem to cause any discomfort, and appear to be from impairment of the sense of muscular position; it is very striking, and it even seems doubtful if there is any real motor weakness, the apparent weakness being due to uncertainty of ataxia. Sensation for pain tested with pin point and with hemostats shows definite impairment; dog reacts quickly in front legs and shoulders, and very slowly or not at all on hind legs. Extreme heat gives the same results.

December 8: Sensory tests gave same results. Ataxia seems definite and very striking, no motor palsy.

December 10: Sensory tests the same. Dog can stand on all four limbs without evidence of ataxia or of motor weakness. Ataxia very striking when in motion, trunk and rump involved, feet frequently crossed and seem to be misplaced so that dog often falls; curious positions when at rest as before, very striking. Both sides alike, possibly right side more ataxic.

Jan. 4, 1912: Bilateral ataxia of hind legs and rump very distinct in walking and running. Dog falls very frequently with hind leg. Curious position of legs seen less often than before. Painful faradic current causes slight or doubtful evidence of discomfort in hind legs and rump, but distinctly less marked than on front legs where it is positively painful. When applied to soles of feet, hind legs are drawn away but not promptly, while on soles of front feet legs are drawn away quickly and with vigor. Application of hemostats caudal to site of operation is distinctly less painful than above operation-scar, though when attention is directed to the procedure, the dog seems to feel some discomfort very occasionally. For extreme heat the same holds true.

January 11: Ataxia is gradually recovering; no other change.

January 18: The same as on the 11th.

February 1: All sensory tests the same as before, but at times very confusing, depending very much on whether or not dog's attention is directed to what examiner is doing or to distant object. When attention is held by assistant then analgesia is very pronounced and unmistakable, but when attention is not diverted, sensation is affected, but not at all pronounced or even doubtful. Rapid examination might easily show that sensation was normal, but careful, frequent and prolonged examinations make it unquestionably correct that there is incomplete analgesia and thermo-anesthesia and pronounced bilateral ataxia of hind legs and no motor paralysis.

Dog 2.—Black and tan, long-haired male dog, weighing about 25 pounds. Operation Dec. 5, 1911; cutting the anterolateral column of both sides at seventh thoracic segment.

December 6: Dog cannot stand or walk on account of inability to use hind legs. Tendon-reflexes are equal and active. There is no spasticity nor do the hind legs feel exactly flaccid. Two sides are alike. Sphincters are not affected; no spontaneous pain. Application of hemostats over hind legs and also heated instrument seems to cause no discomfort; when it is applied to front legs dog reacts rather slowly so that conclusions are unreliable.

December 10: Ability to use hind legs voluntarily rapidly returning. Dog makes effort to stand and walk; can rise on hind legs but generally falls; muscular weakness very doubtful. Seems as if he had some loss of sense of muscular

position; legs appear awkward. Pinching of skin over hind legs with hemostats does not seem to be appreciated; but when applied to front legs it is quickly recognized. Testing with heat perhaps the same but unreliable.

December 15: Loss of the sense of muscular position or ataxia very striking. No motor weakness. When standing at rest dog is inclined to lower head below line of shoulders, with hind legs somewhat further apart than normal and slightly rotated outward, vertebral column shows slight tendency to arching in lower thoracic and lumbar region; this varies from time to time; the tail is held in what may be a purposeful position, straight out from the body, varying in its angle as position of legs is changed, but generally curved, tip turned downward or laterally and more or less rigid at base. The general position is very like that assumed by a dog standing on a swing in motion, attempting to retain balance. In walking or running he repeatedly falls with hind legs, feet are often crossed but when moved are lifted clear of the floor, though not higher than normal. Rump sways a little. Dog often assumes unnatural positions, typical kneeling position, or stands on dorsum of foot, toes being in flexion, one or both hind legs may be crossed under rump when in sitting position. This does not seem to be in the least uncomfortable.

Pinching with hemostats and application of extreme heat over rump, hind legs and belly do not appear to be as distinctly or as quickly felt as when front legs are tested. At times there seems to be very decided analgesia but a few minutes later dog seems to feel quite well; although when compared to front legs there is a decided difference in reaction time. The tendon-reflexes are equal and active.

December 20: About the same as on the 15th.

December 29: Ataxia is somewhat less marked. Dog does not fall so often in walking and running. Sensation the same as before.

Jan. 4, 1912: Much the same as before. Application of painful faradic current gives exactly the same results as in first dog.

January 15: Sensory tests about the same. Analgesia seems definite at times while at another examination it seems very doubtful. Ataxia less marked; dog still falls when walking, but unnatural positions are assumed only very occasionally. In standing the position already described is still very striking.

January 24: Just the same.

February 6: Dog killed sixty-three days after the operation and the brain and cord removed for examination.

Conclusions: Ataxia very striking.

Impairment of sense of pain and for extreme heat and painful faradic current over lower half of body and lower extremities.

Microscopic examination showed that the anterior and lateral portions of the white columns of the cord had been destroyed on both sides. A line drawn through the posterior limits of this area would just bisect the central canal. Anteriorly it extended to a point which corresponded to the position of the most medially situated anterior root fibers. The ventral and dorsal cerebellar tracts were degenerated as far as the pons. In addition some of the degenerated fibers seen in the thoracic segments of the cord corresponded to the positions given by Edinger[8] for the spinotectal, spinothalamic, vestibulospinal and spinovestibular fibers. In segments below the area destroyed there were a few scattered degenerated fibers situated in the extreme lateral periphery. The pyramidal tract and von Monakow's bundles did not seem to be injured. The posterior columns were intact.

In both dogs motor paralysis was noted immediately following the operations, but it disappeared rapidly and was replaced by very marked ataxia. Why motor weakness should occur at all is difficult to explain, for we believe that Gowers' tract is sensory in function and the microscopic examination showed that the pyramidal and von Monakow's bundles were not injured. It may have been from temporarily disturbed vascular supply.

Rothmann has proved that when both the pyramidal tracts and von Monakow's bundles are destroyed, either in dogs or in monkeys, the resulting paralysis may not be permanent. He was forced therefore to conclude that volitional impulses might be conducted from the cortex by some other route. In this connection Schäfer's experiments are important. He cut Gowers' tract in monkeys and obtained motor weakness but without any evidence of ataxia or of cutaneous sensory disturbances. In order to explain the occurrence of paralysis he inclined to the opinion that voluntary impulses must be carried from the cortex down the cord by fibers which arise in Deiter's nucleus, and pass through the ventral and anterolateral columns near the periphery, and represent therefore a subsidiary motor pathway. It does not seem possible to make a complete section of the anterolateral tracts without destroying these long descending fibers; in our cases they must have been destroyed, yet motor paralysis was not permanent. Microscopic examinations of the segments below the level of section did reveal some evidence of scattered descending degeneration; the great majority of degenerations, however, occurred above the area destroyed and extended in the ascending direction.

Consequently Schäfer's[9] explanation does not seem to us entirely satisfactory. The experiments of Mott and Sherrington,[10] on the other hand, are most suggestive. They divided the posterior roots of the nerves supplying the brachial plexus in a monkey and found that the arm was as much paralyzed for ordinary volitional movements as in other cases in which the motor nerves themselves were cut. This they attributed to the cutting off of sensory impulses which pass from the muscles to the cortex. Bastian, referring to these experiments, suggested that in consequence of dividing the posterior roots there must have been a loss of tone in the neuromuscular apparatus. This seems to us the most probable explanation, for we know that the fibers of Gowers' tract represent the secondary continuations of some of the posterior root fibers, and it is probable that the function of one is represented in part by the other. Furthermore, it is known that the fibers of Gowers' tract end chiefly in the cerebellum.

Inasmuch as our dogs did not show the ordinary signs of spastic paralysis and the apparent motor weakness gradually subsided, and ataxia became more and more apparent, and finally entirely replaced disturbance of voluntary motion, we believe that motor paralysis in the true sense never existed. But on account of a very profound derangement of the neuromuscular apparatus, together with impairment of cutaneous sensibility, a pseudoparalytic state or a true paralytic ataxia did occur, because sensory impressions which should pass through Gowers' tract had been cut off; and as the compensatory function of the remaining sensory tracts was being established the apparent paralysis gradually disappeared and ataxia which had previously been masked then became evident and remained permanent.

The character of the ataxia was similar to that described by Bing and Marburg and, according to them, should be expected, as the spinocerebellar tracts are essentially the afferent connections between the cerebellum and spinal cord. It seems to us that the rubrospinal and vestibulospinal fibers may, as Bing has lately indi-

8. Edinger: Bau der nervosen Zentralorgane, Ed. 8, 1911.

9. Schäfer: Jour. Physiol., 1899, xxiv, 23.
10. Mott and Sherrington: Quoted in Schäfer's article.

V. 58
1912

cated, repressed efferent connections between the cerebellum and cord and their destruction might be partially responsible for the extreme incoordination; however, proof is lacking.

In regard to the occurrence of cutaneous sensory disturbances there is considerable difference of opinion. Schäfer, Bruce, Bing and others were unable to demonstrate definite cutaneous disturbances. On the other hand, Rothmann, Schuster,[11] Lewandowsky and others all agree that Gowers' tract in the dog does convey painful sensations, though the posterior columns are also concerned. Why such contradictory views should be expressed we have no explanation to offer unless it is that the character of the dogs has not always been considered.

In concluding we feel certain that our dogs did have a definite, though incomplete, loss of cutaneous sensation for pain and for extreme heat, and very pronounced ataxia of the hind legs and rump. The fibers whose function it is to conduct painful sensations probably are connected with the thalamus and are situated close to the tractus spinocerebellaris ventralis, whose function is chiefly concerned in the regulation of purposive movements.

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THE BLOOD-PICTURE OF THE AUTO-INTOXICATION DUE TO CHRONIC COLONIC STASIS

A PRELIMINARY NOTE

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During the past year I have had the opportunity of studying the blood of many patients applying for treatment for obscure abdominal pains and I have been struck by the uniformity of the findings in the cases in which auto-intoxication from colonic stasis lay at the bottom of the trouble. This has led me to become an adherent of the school which believes that auto-intoxication from the intestinal tract is a possibility and in fact a fairly frequent occurrence. But I believe that there are also many cases of constipation in which there appears to be no intoxication, and these patients do not seem to present the same blood-picture. In them, evidently, the intestinal mucosa and the liver-filters are still efficient barriers in guarding the body-cells from the results of the fermentation and the putrefaction of the intestinal contents.

While the cause of the colonic stasis may be various—bands, adhesions, pericolitic membranes, kinks, splanchnoptosis—nevertheless, the resulting symptoms, when the toxins finally break through the various bodily defenses, appear approximately stable. The patients are nervous and depressed. The skin shows dirty discolorations, especially about the eyes, about the neck, in the axillary folds, and where the skin has much loose connective tissue under it. The appetite may be ravenous. There is usually some headache. And then there is usually backache with periodic or intermittent pain in the abdomen. The colon seems usually distended and tender, at least in spots. The urine shows indicanuria and an excess of phenols. The presence of indican is not important, however, for there may be indicanuria and the colon be fairly innocent.

11. Schuster: Monatschr. f. Psych., xx, No. 2.

The blood-picture in general is the following: Hemoglobin is high, with normal red-cell count. The whites also run within normal limits— usually under or about 9,000. The number of polymorphonuclears is low, usually below 70 per cent. The lymphocytes are correspondingly increased. Of these the larger forms with angular nuclei and wide unstained borders are in the great majority. The mast-cells are infrequent. The ripe eosinophils are about normal. In some specimens one finds many polymorphonuclears with oxyphilic granules. The platelets seem reduced in number.

When studied with Wright's stain, the polynuclears show an increase in the proportion of cells showing large ambophilic granules, so much so that the observer is struck with the "dark" appearance of the protoplasm. That is, the granules are large and purplish and seem to fie in a mauve cytoplasm. The proportion of these heavily staining cells decreases as the patient gets rid of the toxins. Hence, one can estimate rather closely how intoxicated the patient is by the proportion of these dark cells to the total number of polynuclears.

A few case histories may make my findings clearer:

CASE 1.—*Patient.*—J. H. D., aged 52, ranchman, had scarlet fever when a child, and a "typhomalaria" about twenty years ago. In 1895, he had an attack of pain in the calf of the left leg, with similar but lighter pain in the right iliac fossa. He lost flesh, but after much varying treatment, he managed to return to his work after several months of illness. He was not entirely well until 1901, when his appendix (which was only slightly clubbed) was removed and the cecal adhesions broken up. For six months after the operation he was constipated, but thereafter for two or three years was free not only of the constipation but also of the neuritic pains. In the winter months, however, he had been troubled nearly every year since 1905 with "sciatica." He sought treatment on account of a "sciatica" of two months' standing, wherein the pain shifted from the thigh to the calf. He was constipated with ravenous appetite, bad taste in the mouth mornings, irritable; slept well except for pains.

Examination.—The nose was slightly congested; the lungs negative. The heart presented a slight presystolic bruit, loudest under the xyphoid. Blood-pressure: right 135, left 145. The stomach was dilated, reaching 2 inches below naval. The anal mucosa was redundant. Rectal mucosa showed capillary hemorrhagic areas. Urine 1.010, neutral, some indican. Blood: hemoglobin 100, reds 5,500,000, whites 9,800, polynuclears 67, large lymphocytes 14, small lymphocytes 16, other mononuclears 2, eosinophils 1. Nuclei lilac in about one-half the cells. The polynuclears showed dark blue and purplish granules in mauve cytoplasm (granules thickly set). The lymphocytes had wide unstained border in most cases.

We have here, evidently, a patient with adhesions or bands so constricting the intestines as to prevent normal peristalsis. The operation for appendicitis accidentally helped the situation for a time. But now the patient is absorbing toxins and during the cold weather fails to excrete them sufficiently to keep off the toxic neuritis. That this is the true explanation is evidenced by the failure of all sorts of therapy aimed at the symptom by the many able physicians whom he consulted.

Treatment and Course of Disease.—After five days of exclusive milk diet with catharties and the application of heat to the leg the blood-picture showed hemoglobin 90, reds 5,264,000, whites 10,000, polynuclears 66 per cent. eosinophils 1 per cent, large lymphocytes 26 per cent., small lymphocytes 3 per cent., mononuclears 3 per cent., mast-cells 1 per cent., transitionals 18 per cent. Nuclei were refractory; of the polynuclear granules not quite half were dark. The patient was feeling better. Four days later the neuritis showed in only one or two sore spots and the blood showed hemoglobin 90, whites 9,600, polynuclears 65 per cent., eosinophils 1 per cent., large lymphocytes 27 per cent., small lymphocytes 1 per cent., transitionals 40 (including many indefinite forms that might be degenerate instead of immature). Nuclei

were refractory; granules of polynuclears showed only 21 per cent. of "dark" forms. Stools were now liquid and inoffensive.

CASE 2.—*Patient.*—M. T., a girl aged 16, student, was admitted, complaining of pain in appendiceal region; not very severe. Family history was negative. Patient had had measles. Present illness started about a year previously as a dull pain in the iliac region; pain increased after exercise; for previous three weeks she had had constant pain; the region was painful on pressure. Patient was quite constipated.

Examinations.—Temperature 99; pulse 100. Urinalysis, July 13, 1909: Acid, straw-yellow, aromatic odor, slightly cloudy, specific gravity 1.027, no albumin, sugar negative, indican negative, casts negative, blood negative, pus-cells, epithelium (a good many squamous) deposits, quite a sediment, flocculer precipitate.

Treatment and Course of Disease.—The appendix was removed. Recovery was uneventful. Patient was discharged as cured July 29, 1909.

March 9, 1912, patient appeared again, stating that the pains for which she had had the operation had returned after a few months' absence. She felt "cross;" could not do her university work. Her back was weak; no headache. She had tremor on fatigue; the pains appeared in right side especially after exercise or when stretching, or during the occasional attacks of diarrhea. Appetite and digestion good; bowels ordinarily regular; menses painful. Highest weight 125, now 117. The blood-picture was the following: hemoglobin 80, red blood-cells 4,960,000, white blood-cells 7,600, polynuclears 53 (of which 3 were immature, 46 ripe, 4 degenerate; of the ripe cells 29 were "dark" and 17 light). Eosinophils 2, lymphocytes 34 (larger forms 24, smaller 10), mast-cells 1.

CASE 3.—*Patient.*—V. K., male, aged 25, farmer, had for two years attacks of pain localized in right inguinal region. He was never confined to bed though said to have had fever; constipated.

Examination and Operative Findings.—There was no abdominal distention or rigidity, but well-marked tenderness over McBurney's point. The blood examination showed: hemoglobin 100; white blood-cells 9,300; polynuclears 56 (of which 4 were immature, 45 ripe and 7 degenerate), lymphocytes 42 (of which 33 were large), eosinophils 1, mast-cells 1. The protoplasm of the polynuclears exhibited, in the majority of the cells, the purplish granules in mauve cytoplasm. The lymphocytes had wide unstained borders. The operation demonstrated ileocecal bands with kinks; no appendicitis.

The following is presented as a contrasting picture in which the blood study was made before the present series was begun:

CASE 4.—*Patient.*—E. H. E., aged 15, entered the Bell Memorial Hospital Jan. 26, 1909. He complained of loss of weight, gas on his stomach, distress due to bloating immediately after eating a whole meal but of less distress when on a restricted diet. Family history was negative. The boy had had the mumps, measles and whooping-cough. His tonsils and adenoids had been treated, cauterized and clipped. His present illness began in February, 1907, with a feeling of fulness in the abdomen. He had gradually lost weight and grown weaker; had some nausea and sour stomach but seldom vomited. His temperature on admission was 98, pulse 72, weight 88. His weight six months previously was 115. He slept well, appetite was good, but digestion was bad, and he was constipated.

Examination.—Urine examination showed high color, specific gravity 1.030, reaction acid, no albumin, no sugar, no excessive indican. Blood examination: hemoglobin 90 to 100; reds 4,760,000; whites 6,600, polynuclears 49.5 per cent., large lymphocytes 6 per cent., small lymphocytes 7.5 per cent., transitionals 2, eosinophils 9, mast-cells 0.5, mononuclears 21.5, azure granulated mononuclears 3, Turck's irritation form 1. Physical examination showed patient emaciated, skin brownish, but soft, except on wrist and hands. Lungs and heart normal, abdomen retracted and muscles tense. Palpation over the stomach and colon showed no definite tenderness. The gastric analysis, after a Boas test-meal, showed: total acidity 70, combined acidity 54, free hydrochloric acid 46, lactic acid absent. The microscopic examination was negative. The examination of the feces showed: color yellowish, faintly acid with evidences of fermentation, and trichomonas numerous. No tubercle bacilli. The administration of tuberculin, February 1 and 3, was negative.

Operation and Course.—March 8 an exploratory laparotomy was done with appendectomy and cecostomy. The entire colon was found to be covered with an extra membrane, which was not removed. The cecostomy wound was utilized to irrigate the colon; and as long as the irrigation was continued the patient made steady gains. March 7 the urine was examined and proved to be acid, clear, no sediment, specific gravity 1.010. The gastric contents, March 4, after a full meal, were total acidity 107, combined acidity 81, free hydrochloric acid 41, trace of lactic acid. The gastric contents, March 6, after forty-eight hours of fasting, showed: total acidity 56, combined acidity 40, free hydrochloric acid 24. After operation the colon was irrigated through the cecum and the patient improved rapidly, so that he left the hospital April 7.

The patient reentered the hospital May 9, 1909, complaining of distress because of the closure of the cecostomy wound. The stools were found to be negative. The blood-count showed: reds 5,220,000, whites 12,000, polynuclears 65 per cent., large lymphocytes 6, small lymphocytes 15.5, transitionals 3, eosinophils 0.5, mononuclears 10. The urine examination, May 10, was alkaline, no sediment, specific gravity 1.010. Patient left the hospital May 12, 1909.

He reentered the hospital May 18, 1910, complaining of nausea, no appetite, belching, and pain over stomach. His colon had been flushed for about nine months. After the tube was removed he began to have gastric symptoms—gas, fermentation, lack of appetite, and at intervals soreness over the epigastrium, and nausea. His temperature was 98.6, pulse 120, weight 120. His bowels moved only by the aid of laxatives. The urinalysis at this time showed the urine to be acid, specific gravity 1.025, with some calcium oxalates; otherwise normal. The patient was operated on, May 20, 1910, and an ileosigmoidostomy performed. He recovered rapidly and was dismissed from the hospital June 12. Since then the patient has been normal in every respect.

The value of this blood-picture, if verified by other observers, is at once apparent as an aid in the differential diagnosis of appendicitis and other intra-abdominal inflammations.

My thanks are due to my colleague, Dr. J. F. Binnie, for the privilege of studying his case histories and patients and of utilizing his material in connection with my own in the above study.

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Concepts and Realities.—Theories can never take precedence over facts, and in medicine they should always be viewed with some suspicion and by no means with that credulity and assent which the present tendency seems disposed to accord to them. Every scientist, of course, must have in his mind certain concrete pictures of the nature of the units with which he deals; for example, the chemist must have some sort of notion, theoretical, of course, concerning the fundamentals of his science, as of atoms, molecules, chemical affinity, valency, ionization, etc. But he must not mistake these ideas, pure mental imagery, for actual realities, and must ever be ready to shift them. The biologist and the physician must also have their imageries or mental conceptions concerning protoplasm, the cell, immunity, etc., but they must be very careful to regard such ideas as mere working hypotheses and not to consider, for example, that the side-chain theory of immunity actually represents the facts as they are. In fact, if the theory is complex he should view it with suspicion in proportion to this complexity.—W. M. Barton in *Washington Med. Ann.*

V. 58
1912

THE UTILITY OF THE VACUUM BOTTLE IN INFANT-FEEDING *

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Since the advent of the vacuum-jacketed bottle, one of the uses to which it has been put is that of keeping a supply of baby's milk warm over several feeding-periods. From the standpoint of convenience, the idea of adopting this procedure, especially for night feeding, is attractive, as the troublesome process of warming the milk to the proper nursing-temperature at each feeding is thereby eliminated. The usual procedure is simply to warm a suitable quantity of properly modified milk to a temperature somewhat above that required for feeding and place the heated mixture in a vacuum bottle, which is then tightly stoppered and set aside until needed. The milk remains warm enough for feeding over a very considerable period of time.

From a bacteriologic standpoint, it becomes evident on reflection that this practice may or may not be safe for the infant, according to whether the milk is kept at a germicidal temperature or at an incubating-temperature. It is manifest that if incubating-temperatures are used the multiplication of bacteria in the milk will be enormous, and will soon render the milk unfit and even dangerous for infant-feeding.

With the idea of drawing a sharp line of distinction between the safe and unsafe methods of using the vacuum bottle for this purpose, the few simple experiments here reported were undertaken. The results, we believe, are of sufficient general interest to justify their inclusion here.

For the first set of experiments an initial temperature of 150 F. was chosen.

The milk was heated to the desired temperature and transferred to vacuum bottles which had been previously warmed by immersion in hot water. The bottles were kept at room temperature and opened at intervals for temperature readings and bacterial tests.

TABLE 1.—MILK HEATED TO 150 F. AT THE OUTSET, KEPT IN ONE-PINT VACUUM BOTTLE AT ROOM TEMPERATURE, OPENED AT THE INTERVALS NAMED

SAMPLE 1

Time	Temp. F.	Bacterial Count	Remarks
At outset ...	150	7,500	
After 2 hours	138	Less than 100	
After 4 hours	131	Less than 100	
After 6 hours	122	Less than 100	
After 12 hours	100	4,500,000	
After 24 hours	86	Too thick to plate	Sour and curdled.

SAMPLE 2

Time	Temp. F.	Bacterial Count	Remarks
At outset ...	150		
After 7 hours	125.5	Less than 100	
After 8 hours	122	Less than 100	
After 9 hours	117	Less than 100	
After 10 hours	115	Less than 100	
After 11 hours	113	1,500	Peculiar taste.
After 12 hours	107.5	850,000	Acid taste.
After 13 hours	104	50,000,000	Sour, bitter taste.

It will be seen from a study of Table 1 that the bacterial count of milk treated in this manner was extremely low; in fact, that this method of treatment was quite as efficient, from the standpoint of elimination of bacteria, as the best pasteurizing processes now in use. When treated in this way, the temperature of the milk remained germicidal for from six to ten hours, depending on the temperature of the place in which the bottle was stored. After that time, and as the temperature fell below 115 F., the bacteria began to multiply rapidly and soon reached enormous numbers.

It was found that the temperature of the atmosphere surrounding the bottles influenced materially the rate of heat loss; thus in the ice-box (40 F.) a germicidal temperature within the bottle was maintained for six hours. Bottles placed out of doors at a temperature of from 20 to 30 F. maintained a germicidal temperature for five hours, while bottles placed at room temperature, which varied somewhat, depending on whether the night hours were included in the experimental period, maintained a germicidal temperature for from six to ten hours. It follows, therefore, that in using the method, the bottle should be kept in a warm place, if the milk is to be used beyond five hours from the time it is placed in the bottle.

While the method is safe and efficient from a germicidal standpoint, if properly applied, it should be borne in mind that when it is improperly or carelessly used it represents about as potent a factor for harm as could be conceived. The housewife may easily fall into the error of heating the milk to incubating temperatures, as these temperatures coincide closely with the temperatures used in feeding. Such a practice is fraught with danger and cannot be too strongly condemned.

To emphasize the danger from the improper use of the vacuum bottle, the second set of tests (see Table 2) was made. Samples of both raw and pasteurized milk were heated to about the temperature required for infant-feeding, 100 F. The milk was then placed in vacuum bottles and kept at room temperature. The bottles were opened after varying periods of time, temperatures taken, and bacterial counts made. The results showed that both raw and pasteurized milk heated at the outset to 100 F. became dangerous within two hours. An excellent temperature for the incubation of bacteria was maintained for from six to eight hours. The bottles used in all of the tests were the ordinary vacuum bottles of 1-pint capacity.

SUMMARY

1. There is a right and a wrong way of using the vacuum bottle for the purpose mentioned.
2. Properly used, the bottle not only keeps the milk warm, but effectually pasteurizes the milk; in fact, the method amounts to a prolonged "holding process," reducing the bacterial count to practically *nil*.
3. The bottle if placed in a warm place will maintain a proper temperature for ten hours or more.
4. The temperature below which the bacterial growth begins is about 115 F.
5. If incubating-temperatures are used, or if the temperature falls below 115 F., the practice is extremely dangerous, because of excessive bacterial multiplication.
6. The use of the vacuum bottle should not be attempted for purposes of infant-feeding, unless it is controlled by means of a thermometer.

DIRECTIONS

The directions for its use are very simple. Warm the milk, properly modified, until a thermometer immersed

* From the Laboratory of the Department of Health, City of Chicago

in it registers 150 F., and pour it into a vacuum bottle previously warmed by hot water. Stopper the bottle tightly and put it in a warm place. At feeding-time remove the stopper and take the temperature with a thermometer. For this purpose a short thermometer which can be kept inside the bottle is preferable, as the danger of bacterial contamination from this source is thus reduced to a minimum. If the reading is above 115 F., fill the nursing-bottle, allow the milk to cool a few minutes, and proceed with the feeding. Replace the cork of the vacuum bottle quickly, and set it aside for the next feeding. Do not use the milk, under any circumstances, if the temperature has fallen below 115 degrees.

TABLE 2.—RAW MILK, HEATED TO 100 F. AT OUTSET, KEPT IN ONE-PINT VACUUM BOTTLE AT ROOM TEMPERATURE, OPENED AT TWO-HOUR INTERVALS

Time	Temp. F.	Bacterial Count	Remarks
At outset ...	100	2,300,000	
After 2 hours	95	200,000,000	
After 4 hours	93	280,000,000	
After 6 hours	89	400,000,000	Not curdled; still sweet to taste.
After 24 hours	77	Too thick to plate	Sour and curdled.

FOUR-HOUR SAMPLE—RAW MILK

Time	Temp. F.	Bacterial Count	Remarks
At outset ...	100	1,640,000	
After 4 hours	88	540,000,000	Still sweet.

SIX-HOUR SAMPLE—RAW MILK

Time	Temp. F.	Bacterial Count	Remarks
At outset ...	100	1,640,006	
After 6 hours	86	8,000,000,000	Still sweet.

TWELVE-HOUR SAMPLE—RAW MILK

Time	Temp. F.	Bacterial Count	Remarks
At outset ...	100	2,400,000	
After 12 hours	75	Too numerous to count	Sour and curdled.

TABLE 3.—PASTEURIZED MILK, HEATED TO 100 F. AT OUTSET, KEPT IN ONE-PINT VACUUM BOTTLE AT ROOM TEMPERATURE, OPENED AT TWO-HOUR INTERVALS *

Time	Temp. F.	Bacterial Count
At outset ...	100	6,900
After 2 hours	98	1,000,000
After 4 hours	97	3,500,000
After 6 hours	95	3,800,000
After 8 hours	82	7,300,000

* The specimen was pasteurized by heating to 145 F. for twenty minutes.

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An Exacting Correspondent.—We try to anticipate the flight of time as far as possible, and we occasionally have the pleasure of telling a correspondent that he will find his query answered in a previous issue. We are flattered, therefore, though a little fearful of the exacting precedent established, when a correspondent asks us "please to answer in a recent number."

HYDROPHOBIA (RABIES)

WITH REPORT OF A CASE *

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"Hydrophobia" and "rabies" are two different terms for the same disease; the former is derived from the Greek, meaning dread of water. Consequently, as we find only in the human subject the dread of an attempt to drink water, the term "hydrophobia" is properly used only in such a case. A rabid dog will repeatedly attempt to drink water, even though the act induces a spasm of the deglutitory muscles. "Rabies," meaning rage or madness, applies more especially to the disease as we find it in the maniacal form in the lower animals.

The relation of water to the disease in the lower animals, chiefly dogs, is very much overrated. A dog never develops rabies from lack of water — a common fallacy. A dog may be overheated during the hot summer weather; in addition it may not have sufficient water to quench its thirst, but these conditions alone cannot cause the disease. Invariably, whether the disease exists in man or in animal, the history will point to a previous infection by a diseased animal, for the transmission from animal to animal is necessary for the maintenance of the disease. Its occurrence is not limited to the hot weather as was believed until recently; moreover, it should not be confused with a disease known as fits, common among dogs. This disease differs from rabies in that it is of short duration, from thirty minutes to two hours. A rabid dog, on the contrary, is sick from three to seven days. A second point of differentiation between the two diseases is that rabid dogs seldom froth at the mouth; they may drool as a result of deglutitory paralysis, in which there is a drooping of the lower jaw; whereas in fits there is profuse frothing accompanied by generalized clonic convulsions. Again, a rabid dog invariably dies as a result of this disease; on the other hand, one with fits often recovers. The latter disease should not be confused with rabies if the history is carefully investigated, and this confirmed by negative animal inoculations and the absence of Negri bodies. The number of cases of rabies during the winter of 1906 and 1907 tends to disprove the "dog-day theory." The records of this institute for that winter show an increase of about 30 per cent. in the number of cases over the summer months; these conditions, it should be added, were exceptional and largely due to the occurrence of an epidemic. Ordinarily we have only sporadic cases; yet veritable epidemics may occur as the result of negligence on the part of those whose duty it is to protect and preserve public health.

All mammals are subject to the disease; it is, however, confined chiefly to dogs, owing to the fact that they naturally attack their own species. Although the canine by nature follows this rule, in the excitement stage it goes to the other extreme and bites even its own master, not to mention numerous horses, cattle, sheep, etc. The most vicious breeds are, of course, the most dangerous and do the most damage. About 90 per cent. of the cases are due to rabid dogs; the next most important factor in spreading the disease in this country is the cat, which is responsible for about 4 per cent. of the cases; the remaining 6 per cent. are due to horses, cattle, hogs,

* Read before the Clinical Society of the University of Michigan Hospital.

V. 58
1912

wolves, etc. In some countries, as in Russia, the wolf contributes a high percentage of cases.

Hydrophobia is an acute inoculation disease communicated to man by the saliva of an animal suffering from rabies. It is due to a definite specific virus which is transmitted through the saliva either by the bite of a rabid animal or by the saliva coming in contact with a wound already existing. The normal habitat of the virus is the nervous system and it retains its virulence only temporarily when introduced into any other system of organs. The fresh fixed virus injected into the blood-stream does not usually cause the disease; moreover, its injection by the intramuscular route does not give a high mortality — about 50 per cent. If moderately thick homogeneous emulsions in collodion sacs are introduced into the peritoneal cavity, it is found that the virus is destroyed in six hours. The virus rapidly loses its virulence when not in its normal habitat; it is readily destroyed by heat and desiccation. In short, laboratory experiments prove that it cannot exist "in nature." When inoculated into a wound this virus must come in immediate contact with a broken nerve-trunk in order to survive and reproduce itself. If it gains entrance to the nerve-trunk it is protected from the antagonistic action of the blood- and lymph-streams; it slowly extends to the brain or spinal cord. Here a favorable media exists; the virus grows rapidly and the characteristic toxic symptoms are produced.

Since the establishment, in 1903, of a Pasteur Institute by the University of Michigan, 761 patients have been treated for the prevention of hydrophobia. In this state, as in many others, the disease has occurred in both the sporadic and epidemic forms among the lower animals. Seldom are there no cases in the institute; while at times, when the disease reaches the proportions of an epidemic among the lower animals, especially dogs, we have had as many as thirty patients at one time.

CLASSIFICATION OF WOUNDS

In considering the danger of infection from a wound inflicted by a rabid animal we find it advisable to classify the patients according to the following: the location of the bite, the severity of the wound, the degree of cauterization, the lapse of time before reporting for treatment, and the stage of the disease in the animal at the time the wound was inflicted.

Of the patients in the University Institute, 42 per cent. were bitten on uncovered surfaces, head and hands; the remaining 58 per cent. were bitten through the clothing. Of those bitten on uncovered surfaces, 24 per cent. had severe lacerating wounds, 52 per cent. were wounds of a puncturing type, and the remaining 24 per cent. were merely scratched. Those patients bitten on covered surfaces may be divided in about the same percentage as to the location of the wounds. There is another class of patients who have not been bitten, but have been accidentally infected by the saliva of the rabid animal coming in contact with an open wound or scratch. Inasmuch as it is possible for the disease to develop under these conditions of infection, the preventive treatment should be instituted without hesitancy. Although the disease may develop simply from a rabid dog licking a scratch, deep and severe wounds are the most dangerous. In fact, the probable reason for the high mortality in wolf-bites is the lacerating, slashing character of the wounds. Bites on exposed surfaces are the most dangerous on account of the easy access of the saliva to the wound; whereas, in those bites on parts protected by clothing, the teeth are partly freed of their saliva, and the degree of infection is considerably lessened.

CAUTERIZATION

The cauterization of a bite is recognized as the first and most important measure in dealing with this disease. The free use of fuming nitric acid is a satisfactory method of cauterization. The penetration of the acid makes it a valuable cauterization agent, but even when this procedure is carried out, about 10 per cent. of the experimental animals die. It is advisable, after sufficient application of the acid, to wash the wound freely with sterile physiologic salt solution, thus removing the acid and preventing unnecessary destruction of tissue. If nitric acid is not to be had, full strength phenol (carbolic acid) may be used.

It is, however, eminently important that this cauterizing agent be washed from the wound by the free use of absolute alcohol. This procedure prevents subsequent ulceration which is so common when the alcohol wash is neglected.

These two agents, nitric acid and phenol, destroy the virus by virtue of their cauterizing action; yet in high dilutions neither has a disinfectant action on the virus. In fact, a 1 per cent. solution of carbolic acid is an excellent preservative for this particular virus; for instance, an emulsion of rabic brain made up in a 1 per cent. phenol solution, or any one of its numerous derivatives, will preserve the virulence for several weeks.

In formaldehyd solution, on the other hand, we have a specific disinfectant for this virus. The specificity of the antiferment action of formaldehyd on rabies virus is easily demonstrated by laboratory experiments. Formaldehyd in as high a dilution as 0.025 per cent. will destroy the virus in a short time. In the treatment of wounds inflicted by rabid dogs the use of a 5 per cent. formaldehyd solution applied to the wound for twelve hours is preferable to the cauterizing action of nitric acid or phenol because of the specific disinfectant and penetrating action of the former.

Especially should this preliminary preventive measure be instituted in severe lacerating wounds, for in such wounds the degree of infection is high. The immediate treatment of a wound gives the best results; nevertheless, treatment should not be neglected even after the lapse of a couple of days; moreover, under the latter condition the wound should be opened and thoroughly scrubbed. If every wound, especially severe ones on the head, be thoroughly cauterized, and this immediately followed by antirabic treatment the mortality would be *nil* among those bitten.

As to the time of exposure it can reasonably be said that a wound on the hand after a delay of three weeks is quite as dangerous as a bite on the head exposed only a few days. The cumulative action and the extension of the virus along the nerve-trunks to the central nervous system during the interval of exposure should always be borne in mind. Therefore it is quite as necessary to prescribe an intensive form of treatment to a patient bitten slightly on the extremities with a prolonged exposure as it is to one with a recent head wound.

It is quite safe to say that the virus is not transmitted by the bite of a rabid animal until two days previous to the appearance of the first symptoms. The early symptoms, however, are often very obscure and so slight that they are not recognized. So it is with some difficulty that a decision is reached in advising patients bitten early in the course of the disease to take treatment.

If a dog which is naturally not of a vicious kind suddenly bites without provocation, it should be tied securely and kept under close observation for at least seven days. Should the dog develop symptoms of rabies during its confinement the bite should be considered dangerous. An investigation of such a case will usually reveal the fact that the external cause inciting the dog to bite was not sufficient to cause the same act in this dog when normal. Occasionally the only recognized symptom in the early stage is a tendency to bite, but such cases, if kept under observation, develop well-defined symptoms within a few days.

Physicians should not fail to recognize the difference between a dog which bites because vicious and one which is in the early stages of rabies. In either case the dog should not be killed, but confined and kept under observation for seven days. If simply vicious it remains well and healthy. If, on the contrary, it is rabid it will develop either the maniacal or paralytic form of the disease and die within a few days. On the other hand, if the dog is shot in the first stages of the disease, a satisfactory laboratory diagnosis may be difficult and delayed a longer time than is required for the development of the characteristic symptoms in the dog.

SYMPTOMS OF RABIES IN DOGS

The symptoms of rabies are well defined, and are not confused, even by the casual observer, with those of other diseases. The first symptoms are those of mild or marked excitement, nervousness, irritability, and often a tendency to stray away from home. This stage of the disease has a duration of about two days, seldom more than four days. As the disease progresses the excitement becomes more marked, and unless this is cut short by generalized paralysis, the dog becomes furiously rabid. In this condition the dog is uncontrollable; it has hallucinations, and may, without provocation, bite its own master.

Partial paralysis marks the onset of the second stage of the disease. The paresis may be unilateral, or it may be limited to the hind extremities or the lower jaw. If there is paralysis of the posterior extremities, the dog walks with a humped back and an apparent stiffening of these parts. Later they become weak and tremulous and it is with difficulty that the dog walks. The drooping of the lower jaw is a diagnostic sign, although it is not present in more than about 30 per cent. of the cases. The unilateral paralysis is characterized by a turning of the head to one side, and a tendency to cross the fore paws. As this condition becomes more pronounced the animal is inclined to, and may, run or walk in a circle. During the second stage the voice may change; it is at first low and muffled, finally it becomes difficult to evoke and is a succession of low-pitched howls coming from far back in the throat. As the paralysis of the cheeks, mouth and lower jaw becomes more evident the power to bark is completely lost.

Although few rabid dogs eat and drink without discomfort, yet we find in the majority of cases repeated attempts will be made without success. In some cases solid substances may be swallowed without discrimination, and on post-mortem, when foreign material is found in the stomach, there is sufficient evidence to arouse suspicion of rabies. Food may be held in the mouth for a short time and then dropped, a condition which may occur in advanced paralysis of the deglutitory muscles. As was stated in the opening paragraph, the rabid dog has no fear of water; a dread of water is, however, characteristic of hydrophobia in the human subject. The dog may not be able to swallow; despite this fact it will make many attempts, succeeding only in emptying a dish of water by splashing the water over the sides, in the eager attempt to lap it up. The owner of this dog usually makes the statement that it could not be rabid because it drank one or more dishes of water.

When the paralytic stage appears early in the course of the disease the dog is usually morose, but not aggressive; under such conditions we have the so-called dumb rabies. This type, however, is not so common as the maniacal form in which there is a condition of furious rage, in the diagnosis of which there can be no mistake. This is the most common diagnostic feature of rabies in dogs. In this state of delirium the animal runs amuck, furiously attacking all animals, including man and even its own master. It may travel as far as forty miles, leaving in its path numerous bitten animals which in turn may act as spreaders of the disease.

The stage of paralysis lasts from one to four days, after which the third stage appears with the complete loss of equilibrium. This period of complete paralysis varies in duration from a few hours to two days. Finally, from two to seven days after the appearance of the first symptoms, death results from complete paralysis of the respiratory center.

That rabies and hydrophobia are transmissible by the bite of a rabid animal is a well-established fact, both by common experience and by laboratory experiment. This point is clearly exemplified, among dogs, by the possibility of tracing, through four distinct generations, that strain of virus which caused hydrophobia in a case which came to our attention recently. The first reference to this particular strain of virus was noticed in the case of a dog which had well-defined symptoms of rabies. Laboratory experiment proved, by both the microscopic and the biologic tests, that this dog was rabid. Two of the dogs bitten by the one just referred to were neither killed nor kept under close surveillance; furthermore they were not muzzled. One of these developed rabies and acted as a spreader of the disease. Laboratory examination of this specimen showed that it was rabid. Practically the same circumstances accompanied the transmission of the virus in the third generation. All dogs carrying virus in the fourth generation were killed with the exception of one. The owner of this dog insisted on keeping it so that he might demonstrate to his own satisfaction the existence of such a disease as rabies. The authorities, whose duty it was to protect public health, neither caused the dog to be killed nor did they compel the owner to muzzle it. After an incubation period of four weeks the dog acted strangely; it was excited and refused food and water. Then it was tied, but, as is apt to occur with rabid dogs, gained its liberty. On the following day, while still at large, it bit a human subject, who, not having been given the preventive treatment, died from hydrophobia.

REPORT OF A CASE OF HYDROPHOBIA

A typical case of hydrophobia was brought to the University of Michigan Pasteur Institute last May. The patient, a boy, 3 years old, had been bitten severely on the face three weeks previously by a rabid dog. This animal had been shot and the Pasteur Institute of the University of Michigan had reported positive findings from an examination of the brain, at the same time advising immediate treatment of the child at the institute. This advice, however, had not been acted on and it was nearly three weeks after the accident that the patient reported for treatment. Then it was found that the wound had not been properly cauterized, but merely held in place by adhesive plaster. Already on about the

V. 58
1912

sixteenth day the child, usually quiet and of an amiable disposition, was nervous and fretful, evincing a sense of apprehension, a decided loss of appetite; moreover he drank water with some difficulty. A day or so later the reflex irritability of the deglutitory apparatus became so marked that the child realized that water could not be drunk without causing a most distressing spasm. Despite this fact he made repeated efforts to satisfy his thirst until within a day or two the spasms were so violent that the patient not only was unable to drink, but he evinced the dislike of water characteristic of hydrophobia. On the nineteenth day the first symptom of paralysis appeared; the gait was unsteady and staggering. The paralysis became marked on the twentieth day. This stage of the disease lasted but twelve hours, however, an unusually short duration. During this stage of the disease the facial symptoms, expressions of fear, or apprehension of impending danger, became aggravated.

During this stage the child developed twitchings of the extremities—there had been only a slight tremor of the hands before—and he suffered from hallucinations which frightened him; at times, however, he seemed to imagine that he was driving horses, making a peculiar frequent clucking sound, or he would call to dogs—subconscious images of his life on a farm. At this time chloral and morphin were administered with quieting effects. The temperature rose to 107.2 F. and there was a marked tendency to sweating. The tongue was heavily coated, and on several occasions he vomited a thick, yellowish, creamy fluid. There was considerable drooling and collection of saliva owing to the inability to swallow. When the mouth was not kept free from saliva by frequent swabbing, the patient, breathing through the mouth, caused the characteristic frothing. This condition was particularly pronounced during the convulsive stages, owing to the increased rapid respirations. These tonic convulsions, particularly of the lower limbs, occurred from fifteen to twenty minutes apart; in the intervals between these the patient ground his teeth and muttered continuously. In the meantime the eyes became reddened and glassy; the pupils were widely dilated; the lower jaw dropped and the patient breathed with a respiratory grunt. About two hours before death there was marked cyanosis, the eyes became fixed in a vacant stare and consciousness was lost. At this time the muscles became flaccid and death resulted from paralysis of the respiratory muscles.

MORPHINISM AND ITS TREATMENT

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Every physician is familiar with at least a few cases of morphinism. Nearly every physician has made effort to rescue from the addiction its victim, and as a rule has given over the effort as hopeless, because even when the patient has been taken off his drug, he relapsed, or while under treatment he did not have the courage to persevere or the stamina to endure the necessary suffering. The profession as a whole has adopted a cynical attitude toward the possibility of permanent cure and many have relegated to quacks and charlatans the treatment which these poor people seek.

Three lines of endeavor have been employed: so-called slow reduction, sudden withdrawal and withdrawal accompanied by the administration of belladonna or its alkaloids.

"Slow reduction" simply means gradually reducing the patient's accustomed dosage. It is perfectly easy and unnecessarily slow up to the point of minimum organic need. Then must come withdrawal, and the wrench of actual final withdrawal is nearly as severe from a very small dosage as from a moderate one. Prolonging its accomplishment means subjecting the patient to the strain of persistent craving, discomfort, self-denial and organic need. These sequelæ or remnants of the old trouble remain for months and render the patient especially prone to relapse.

As to sudden withdrawal, anyone who has watched a addictee in the agonies of morphin deprivation will hesitate to attempt to prolong this to convalescence. Those who have undergone it show for years, in shattered nerves, premature age, etc., the effects of the terrific shock.

It has been shown from studies of the blood of patients undergoing very slow and very rapid withdrawal that they have, following treatment, very much lowered vitality and powers of recuperation. This is the natural result of the prolonged, nagging strain of the one and the shock of the other.

Withdrawal by the use of belladonna or its alkaloids has been attempted for a long time and in many combinations, and has a rational basis. The clinical picture of full belladonna effect is in many ways similar to that of an acute febrile disturbance. Morphin users are much less susceptible to such febrile attacks than ordinary men. During an attack, however, they are perfectly comfortable on a dosage far below that to which they are accustomed. The same is true of full belladonna-effect. Whatever its mode of action, whether it simply benumbs sensation, or produces artificially the systemic disturbance of a febrile condition, or is actually physiologically antidotal to morphin and other narcotics, it does reduce craving in a narcotic addictee.

In my work in the alcoholic service of Bellevue Hospital, I had to treat many cases of morphin addiction. Attempts at slow withdrawal proved wearisome, difficult, and unsatisfactory in application and abortive in results. The patients could not be kept a sufficient time in the hospital, and could not afford to retire to sanatoriums for the months of prolonged convalescence necessary to enable them to return to active life with its strain and manifold temptations without a certainty of relapse. Early trials of the treatment, an outline of which was published by Dr. Alexander Lambert, were unsatisfactory in my hands. Although some patients came through well and comfortably, too many others did so with too much suffering and too severe and persistent prostration and other sequelæ. This was due to my inexperience and lack of understanding of morphin cases.

Subsequent observation showed three things.

1. A morphin addictee can take enormous single doses without any untoward effect.

2. The duration of his freedom from craving following his dose is in ratio to the amount taken and can be fairly estimated.

3. Following adequate catharsis, smaller amounts of the drug are needed than before.

It seemed to me, therefore, that some method based on these facts and employing belladonna could best accomplish the result. That described by Dr. Lambert met these requirements. It had given undoubted results, and I determined to try it again, in the light of further experience, endeavoring to study the occasion for its failure in the hands of so many, including myself, and to minimize the difficulties with which it had been attended in the hands of everybody.

Analysis of cases and of results obtained during and following treatment points to a conclusion that the fairly robust individual not using excessive amounts of the drug, and with good resistance and reactive ability, responds well and goes through this method of rapid withdrawal with but little complicating disturbance or sequelæ. On the other hand, the poorly nourished,

weakened user of large amounts, who has come to depend on his drug for nearly everything including food, or the moderate user whose physical resistance is poor from illness or other cause, or whose inherent susceptibility to the drug is marked, has lost the power of reaction to physical insult unless helped by the drug. For him the shock of withdrawal is a serious matter, making the care of convalescence more difficult than the withdrawal of the drug. In other words, the ease of withdrawal and subsequent recuperation is commensurate with the extent of organic dependence on the drug and the physical condition of the patient. In the endeavor to estimate and control these factors, it becomes apparent that there is a wide variation in morphin tolerance and in reaction to morphin in different individuals. One man using the same amount as another is depending on its effect for the support of his organic processes to a much greater extent than is his more resistant brother. A certain amount for each individual addictee becomes a physiologic need. As long as this amount organically required is not exceeded, general metabolism is not markedly affected. Amounts in excess of this inhibit metabolism, and it seems likely that they are to a considerable extent stored up in the liver, whose capacity for storing is limited by the activity of its cells. These cells from repeated excess storing, acquire increased tolerance and at the same time a progressive inhibition of their normal function. As in other instances, the liver protects the organism from deleterious intakes extrinsic and autogenous; so, to the limit of its ability, it does with morphin. The general system adapts itself to an accustomed pseudophysiologic action supportive and stimulative to it, until increased dosage, or some intercurrent condition of strain, lowered vitality, illness, etc., renders the protective action of the liver inadequate, and metabolism suffers.

However this may be, a weak wreck using large quantities a day does not readily recuperate physically under careful treatment while his excessive dosage is kept up. His constipation is extreme; he has no appetite; his color is poor and his nourishment far below par. Nor does he improve till his dosage is cut down to that amount needed for his physiologic support. Then there is a definite change, and he gains rapidly and can be made comparatively healthy and vigorous and of fairly good reaction to strain. Less than this amount brings, symptoms on withdrawal, and renders abortive attempts to improve metabolism, reaction and general tone. This amount varies with the individual and it varies in the same individual under different conditions of health, weariness, anxiety, etc. By keeping the patient on it, the inhibitory effects of overdosage can be to a great extent overcome and the whole organism, especially the liver, can be put into an active condition and able to respond to its task of elimination and subsequent readjustment.

The foregoing offers explanation and points to solution of the two main difficulties of treatment:

1. During withdrawal, failure of the patient completely to eliminate stored-up products because of weakness or long-continued inhibition of hepatic function.

2. After the drug has been taken away, inability to respond to the task of readjustment and to react to the shock of ordinary stimuli exaggerated by an oversensitive nervous system.

The solution seems to lie in a preliminary stage removing inhibition and putting the patient into as good a reactive condition as possible. The untrained man going into a grueling contest may feel the effects of the strain and shock for days or weeks while his better-conditioned fellow is perfectly fit the next day. In like manner, I believe that in many cases it is almost imperative to train the patient for the shock and strain of morphin withdrawal, and in many other cases, though less imperative, highly desirable. It has been objected that it will prolong treatment. My experience has been that it very much facilitates and renders easier treatment, and that it shortens and makes less troublesome convalescence.

I have therefore instituted a preliminary stage before attempting withdrawal of the drug. During this time I study my patient, regarding him not simply as a morphin addictee but as a sick man, to be investigated as carefully as a typhoid or pneumonia patient and all his organic conditions appreciated as far as possible before active treatment. Conditions long masked by morphin and forgotten even by the patient may seriously affect treatment, convalescence and prognosis if undetected. With the patient under control and morphin intake regulated, these may be allowed to show through, and if advisable or possible remedied before withdrawal. The reason for addiction, the strength of desire to stop, and the mental and moral caliber of the patient should be determined. It is also well at this time to determine his mental attitude and to win his confidence, and thus gain control over him. These patients are nearly always well informed on morphin and acquainted with the divers methods of attempting cure. They are suspiciously analytic of themselves and of the physician, and when despondent soon become intractable. Cooperation and confidence between patient and physician vastly influence the amount of nervous energy wasted by both and are big factors in treatment and in convalescence.

The first step in active preliminary treatment is to determine what, for the individual, is the amount of drug necessary to maintain metabolism and fully supply his self-created needs. A grain every four hours is a good average maximum. With many the amount is much less. Any patient can be cut to his physiologic amount almost immediately if attention is paid to his elimination. Most users are taking amounts in excess of their need and have a very sluggish elimination, and therefore require heavier catharsis than the ordinary man. Elimination should go to adequate catharsis and not to the point of excessive purging. Otherwise the diarrhea will mask one of the valuable indices as to morphin need, deplete and furnish less adequate elimination than that from a normal intestine. The patient can then be rapidly built up by tonic treatment, feeding, exercise and rest. In a few days to a week, as a rule, the patient has lost his leaden color, has a good appetite, gained in weight; his intestinal tract is in good tonic condition and he has normal movements on fairly mild catharsis or none; his circulation and nervous system are in better tone and balance; he feels well and encouraged, and his mental attitude is more optimistic. He has been put into a condition which may be regarded as his normal and can be started on a treatment of extreme elimination with his organs in good condition to respond to medication and his system toned up to react to the shock of withdrawal. His tolerance and the time required for his elimination of morphin in known dosage has been estimated, and his reaction to catharsis determined, and he is ready for the withdrawal of the drug.

In accomplishing withdrawal I have had my most satisfactory results from the method described by Dr. Lambert. It does remove organic need and consequent physical craving, and when competently administered,

V. 58
1912

and modified and adapted when necessary to the individual case, does so with less disturbance and suffering than any other with which I am acquainted. It is a treatment of extreme elimination and rapid but not sudden withdrawal, accompanied by the administration of belladonna to the point of full physiologic effect, estimating the periods of cathartic and drug administration on the basis of the average time required for cathartic action and morphin elimination in the chronic drug user.

Lambert gives strong purgatives, following result from them with divided doses of morphin administered within one and one-half hours and totaling two-thirds of the patient's accustomed daily intake. At the same time he begins the so-called "specific mixture," containing two parts of the 15 per cent. tincture of belladonna to one part each of the fluidextracts of hyoscyamus and xanthoxylon. This mixture is given every hour, beginning at 6 drops and increasing 2 drops every six hours up to 16 drops, unless full effect is reached before, and there maintained. Purgation is repeated ten hours after the administration of the morphin and a dose of one-half of the initial total of morphin follows result from it. Catharsis follows morphin at ten-hour intervals and morphin in a dosage of one-half of the preceding dose follows result from catharsis. This is continued until the appearance of a stool which is described, and mentioned as occurring about the sixtieth hour, marking the desired result, and as a rule terminating treatment. Complete description of the routine and administration everyone is familiar with from Lambert's articles. The above is merely an outline of its principles stated as a basis to show the various modifications and adaptations which I have found useful.

MORPHIN DOSAGE

Instead of estimating morphin dosage on the patient's customary daily intake, which is almost as a rule far in excess of his actual need, I have, since the initiation of a preliminary stage, based it on his actual tolerance for, reaction to and elimination of the drug, under the physical conditions which obtain in him at the time of starting withdrawal. I give the initial administration in two or three doses. The first is one-half to two-thirds of the total daily amount needed to keep the patient at his best during the preceding few days. The second is one-half of the first, given an hour later. The third is given or not, according to judgment. It is the same as the second in amount and is given a half hour after it, if there is any doubt as to the preliminary dosage not being quite high enough, and after observation of the effects of the first two doses. Succeeding administrations during treatment are in one dose, each amount being one-half of the preceding one.

The above dosage is not fixed in amount. It is a statement of average results, to be varied in accordance with the needs of the individual patient, as shown by the duration of morphin effect in him, by the adequacy of his elimination, and by his condition during treatment.

CATHARSIS

The object of this is to secure both stimulation and elimination from the liver and adequate emptying out of the intestines. I therefore place most dependence on the mercurials, giving, as a rule, blue-mass in 5- to 10-grain doses at the indicated intervals, and reinforcing its action as necessary with other cathartics, as compound cathartic or vegetable cathartic pills. Salines of course follow mercurial catharsis. Castor oil given in lemon juice or sarsaparilla and vichy, I have found very useful and well tolerated by many of these patients. What catharsis we use should be determined by the needs and known response to catharsis in the individual case, determined during the preliminary stage. The inhibition and atonic tendency in chronic users has been to a large extent overcome by the preliminary treatment.

Much of the difficulty of the treatment, it seems to me, has resulted from overirritation of the intestinal tract. This exhausts a less robust patient and does not assist especially in the excretion from the liver of its stored-up products. Constantly whipping up an organ unable to respond can only result in its non-functionating. In the asthenic type of case repeated excessive stimulation of liver and intestines may cause an exhaustion of liver and intestinal function before the elimination of deleterious matters is complete, and thus defeat its own end. It seems to me that the nearer to a stimulated normal we can keep the bowels for as long a part of the treatment as possible, the less trouble we shall have.

To this end I have found useful the addition of continued doses of calomel throughout part or all of the treatment. I have given it in ½-grain doses every two, three or four hours. In my experience it does not produce salivation, and in patients so treated there has been less vomiting, and abdominal pain, and less need for drastic irritating catharsis. Moreover, there seems to be a steadier and more adequate liver elimination, shown by more constant and uniform bile content in the stools. It also gives added control over the duration of periods and ability to give morphin should need arise. Morphin cannot be given without intense abdominal discomfort if there has been no result from a preceding irritating cathartic acting below the duodenum. This does not apply to continued calomel administration. During its use there is always some cholagogue cathartic in the intestine sufficient to move the bowels at short notice by the aid of castor oil followed in a half hour by a saline, or in many cases by the saline alone. Stronger catharsis is rarely necessary. The calomel is, I believe, especially useful in the asthenic type of cases, and where there is tendency to gastric irritability and undue reaction to the more drastic cathartics.

I do not offer the above as a routine substitution for the cathartic procedure outlined by Dr. Lambert. It is offered as a basis for adaptation of treatment to those cases in which variation seems advisable.

ADMINISTRATION OF DRUGS

The belladonna mixture is administered, as previously described, to the point of full physiologic action, and continued at a dosage which will maintain belladonna effect. Tolerance varies and some cases will have to be carried above the 16 drops, while others will respond to a very small dosage. As to indications, my experience has been that the earliest in advent, and those to be used for guidance, are dryness of the mouth and throat, dilatation of the pupils, blurred vision, headache, flushing of the face, rapid pulse. These generally occur within the first twenty-four hours, and so long as they occasion but slight discomfort may be disregarded, as the patient acquires a tolerance and they alleviate as a rule. They should not be allowed to go to serious discomfort. Experience will guide the physician in this matter. The mixture can be most conveniently administered in gelatine capsules.

Intervals of drug administration can be changed with benefit after some experience, in indicated cases. Individuals react differently to any given drug, and morphin users are no exception to the rule. They eliminate

morphin with different rapidity, and they absorb and eliminate belladonna and hyoscyamus differently. A good average for the effects of the initial dose of morphin to wear off in an untreated addictee is the ten hours plus time for cathartic action, as stated by Dr. Lambert. Following preliminary treatment, however, and the dosage changed to that organically required, together with the consequent removal of metabolic inhibition, the patient reacts more as a non-user does. The time of elimination, and the duration of drug-effect are more varied. The physician should recognize this fact and shorten or lengthen his periods, or increase his morphin dosage according to the requirements of the individual. In this he can be guided by the onset of withdrawal symptoms, as yawning, sneezing, nausea, nervousness, etc., and by the behavior of the intestinal tract. Should elimination prove more rapid than was expected, or the estimated dosage of morphin not be large enough to carry the patient over the calculated period, catharsis should be secured earlier and the next dose of morphin given as soon as result from it occurs. If continued administration of calomel has been employed, this can be easily done as already explained.

THE STOOLS

It has seemed to me that the "typical stool," while marking the advent of adequate elimination in most patients, especially those who are robust and possessed of good tone and reaction and capable of adequate eliminative response, is yet an unreliable index in many others. Observation of the stools is valuable, in my experience, chiefly as furnishing an index of bile elimination and liver activity. As to the interpretation of the mucous content, I am uncertain. It is extremely varying and I have been unable to satisfy myself that its advent and amount is a guide to the extent of morphin elimination.

I have seen stools of solid mucus and good bile-content several times repeated and the patient not yet relieved of his morphinism. On the other hand, I have seen perfectly satisfactory results in patients showing none or very little mucus, or passing it some time after treatment was cut. There are several possible explanations for it, and I do not feel that I can offer an opinion on the matter. Further observation may interpret it. I am guided by clinical observation of my patient's condition for the regulation of medication.

DURATION AND COURSE OF TREATMENT

As to length of treatment, I have had best results, especially in the weaker and poorly reacting type of case, from more extended and less vigorous treatment. I rarely keep the medication up less than eighty hours and often go higher. This means the addition of more periods of catharsis and drug administration, and the variation from the hourly administration of belladonna. After full belladonna-effect has been reached I have not seen results influenced by cutting it for a few hours to ensure sleep, to give the stomach a rest, etc.

Indications for cutting treatment I find in the condition of my patient. As a rule his course has been comfortable, free from craving, suffering but slight if any nausea, vomiting, etc., until there comes the onset of a distinct change. He becomes restless, may have some abdominal discomfort and feel "sick at his stomach"; has a sense of depression, feels generally uncomfortable and wants to go to bed. These symptoms are distinct from those caused by morphin need, of which no signs are present. The difference is recognized by the patient himself who does not want morphin for relief, but simply "feels sick." I believe it marks the final morphin elimination and the manifestation of uninhibited belladonna symptoms. Its detection is to an extent a matter of experience and is as yet, in my own mind, largely a matter of clinical impression. Its manifestations vary. That it does occur I have been repeatedly assured by patients, among them physicians. Further study may clear up its clinical picture.

When this change occurs I give heavy catharsis and cut treatment. If recognized in its incipiency and discomfort is not marked, I give something like compound cathartic pills, followed in a few hours by castor oil and this in an hour or two by a saline. A high enema or colon irrigation is also of use. If it is not recognized early, it is better to get a quick clearing out of the bowels by castor oil followed by a saline. After this the patient generally sleeps. If not he may be given a hypnotic. I use mostly bromid and chloral reinforced if necessary by some codein. It is sometimes wise not to cut the belladonna at once, but to diminish its dosage and increase its intervals for a day or two.

DIET

One of the most important factors in treatment is the matter of diet. Overloading the stomach is disastrous. Food should be light and given in small quantities. In some cases I have found the use of hydrochloric acid and pepsin of value. The gastric secreting glands sustain considerable inhibition during treatment and the supplying of pseudonormal media seems to aid in preserving gastric tone and activity.

The nutritive aspect of the problem is of little importance during withdrawal. I doubt if there is much absorption of food during active treatment, and its main function at this time seems to be to furnish some solid material to the intestines. Diet is an individual problem, and as a rule I put patients on dry toast and weak tea or coffee, and satisfy hunger as it arises according to discretion. Milk, even when peptonized, is not well tolerated during the administration of belladonna. I force fluids, especially water, and discourage their being taken too cold.

Careful regulation of diet during early convalescence cannot be too strongly emphasized, as at this time the patients often have ravenous appetites and are with difficulty restrained from indiscretions. Their diet must be moderate in amount and easily digestible.

COMPLICATIONS OF TREATMENT AND CONVALESCENCE

Space is lacking for an exhaustive discussion of these and their management. I shall therefore confine myself to a mention of the most common with brief indication of my conception of their character and remedy.

The vomiting is of at least four kinds:

1. Gastric revolt from dietary indiscretion or from repeated administration of the same kind of medicine at frequent intervals. Patients sometimes say that the thought of taking another capsule in an hour "turns their stomachs."

2. Vomiting due to a mucous gastritis with the ejection of sour-tasting mucus, probably a neurotic or atonic gastritis and due to asthenia or belladonna inhibition.

These two types can be easily controlled as a rule. They rarely occur till after full belladonna-effect has been reached and this medication can be cut for a few hours without influencing treatment, and the local condition treated as indicated.

V. 58
1912

3. Vomiting from morphin need is accompanied or preceded by other withdrawal signs, as yawning, nervousness, etc., and the patient himself recognizes his need. It can only be relieved by morphin which may be administered as previously described.

4. Vomiting due to reflex irritation from the intestinal tract may result from inadequate catharsis, or may accompany an atonic colon containing unpassed liquid fecal matter. Cleansing of the bowel will relieve it. Morphin administration is not needed.

All types of vomiting can, as a rule, be prevented or controlled by preparation and careful observation of the patient. The calomel, I believe, has aided much in their control. The usual antemetics do not seem very efficacious. In all forms except that caused by need for morphin, it is well to cut everything by mouth except small quantities of water, give the stomach a rest and the patient a chance to sleep.

Delirium is of at least four kinds:

1. Belladonna delirium, due to overadministration of belladonna and easily avoided after some experience.

2. The coal-tar products will cause delirium in some cases during the administration of belladonna. Their administration, however, is rarely necessary.

3. Exhaustion psychosis, coming on in asthenic cases, late and often deferred until convalescence, especially marked in late afternoon and night. It is the result of excessive depletion and of too rapid withdrawal in a case unable to react. It is typical of this class of psychoses.

4. Delirium from auto-intoxication, closely allied to and often associated with the previous type, and due to inadequate elimination. This does not necessarily mean lack of stools, but may occur in patients who have had stools almost dysenteric in character and number, but yet have a distended colon containing liquid fecal matter.

Delirium is practically unknown in a carefully handled case.

Leg and arm pains are very troublesome. They often occur late and continue well into convalescence. What their origin is I am not certain, but do not think it the same in all cases. As a basis for speculation and treatment I have regarded them as:

1. Neuritic from possible morphin poisoning and comparable to the alcoholic neuritis which occurs under like conditions of withdrawal in the chronic alcoholic.

2. As circulatory due possibly to shock or exhaustion of vasomotor nerves. They are worst after undue exercise and at night.

3. Some uneliminated remnant of morphin or other toxic product. This does occur, but does not account for the great majority of cases, and I incline rather to the first two explanations, either neuritic or circulatory due to taking away from the nervous and circulatory systems in a comparatively short time of a long accustomed support.

They are relieved by massage, hot applications, electricity, and in varying degree by the different analgesics, and disappear as the patient gains in tone and reactive ability.

Nervousness and sleeplessness may be present during early convalescence and prove annoyingly persistent. They are probably due to the nervous exhaustion following weakness and continued strain, or to the shock consequent on the release of the nerves from morphin inhibition. Their immediate treatment is by hydrotherapy, massage, sedatives, etc. Sedatives may have to be reinforced by codein for a few doses, but this should not be kept up for more than forty-eight hours.

The above complications are seen at their worst in the weak, poorly reacting patients with impaired circulatory and nervous tone, and are practically absent in the robust beginning withdrawal in good tonic condition, and not suffering too much discomfort during withdrawal. Nobody can stand too prolonged discomfort, anxiety and loss of sleep. If these cannot be avoided they should come late and terminate as soon as possible. Complications can be to a very great extent controlled and in many cases eliminated by getting the patient into good condition before withdrawal, and then during withdrawal grading his treatment to his endurance and reaction.

CONVALESCENCE

The period immediately following withdrawal is full of uncertainty commensurate with the instability of the physical condition in which the withdrawal has left the patient. He is often overbuoyant and overconfident in his new-found freedom, and is apt to interpret the feeling of well-being and improvement which has come to him as indicative of complete health and unlimited endurance, and to overstrain his strength and reactive ability by indiscretions in diet, overexertion, assumption of worry, etc., before he is able to respond to the tax they impose. Until the patient has readjusted and is reacting normally to the stimuli of ordinary environment, slight indiscretions in diet, overexertion, excitement, constipation, etc., have a tremendously exaggerated result. He should be carefully controlled, and warned that until pronounced absolutely well he must regard himself as convalescent and remain under the supervision of his physician. Readjustment is very rapid, however, if the patient starts withdrawal in good condition and is not pushed beyond his ability to respond during active treatment.

NURSING

Adequate nursing is a matter of very great importance. The best nurses are none too good for the purpose of morphin withdrawal. They should combine nursing ability with tact, attractive personality, ability to handle the patient, trustworthiness and unusual powers of observation. On their adequacy will depend, to a large extent, the early detection of incipient complications, easily controlled if taken in time, but bringing discomfort, anxiety and difficulty of control if allowed to develop.

Their experience is of course a factor in their selection. A case of morphinism should not be started with incompetent nurses.

PROGNOSIS

Prognosis as to permanent cure must always be guarded. It depends on the origin of the addiction, mental caliber of the patient, environment, occupation and physical condition. Some can be identified as poor risks from the start. In considerably over one-half of the cases that I have seen, the origin of addiction lay in innocent and ignorant use of the drug, often too freely prescribed by physicians or others for relief of illness. This type of patient is otherwise a normal man, and once his addiction is removed, and given an environment, not too adverse, occupation and fair health, he will not relapse.

Some of my patients have since their treatment gone through illness, lack of work, despondency and destitution without relapsing. Ward patients disappear and cannot be followed closely. I am confident, however, that at least one-half of my patients have kept away from

their drug. If this proportion were far lower — and it may be higher — I should feel that results had amply justified the work I have done for them. With private patients in favorable conditions, the proportion should be much higher. Get the patient into good physical condition and free from organic need for the drug, and the prognosis is good.

In the title of this article and throughout its length I have spoken only of morphin. Each of the opium products varies in some of its effects and in degree of effect from the others. In the main, however, what I have written of morphin applies to any opium product and to a great extent to the other narcotic drugs.

422 West End Avenue.

A PRACTICAL METHOD OF PROPHYLACTIC IMMUNIZATION AGAINST TUBERCULOSIS

A PRELIMINARY ANNOUNCEMENT

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The results at which I have arrived in my studies of the subject indicated by the title will appear in a forthcoming publication in greater detail than I am able to offer now without using much more space than is practicable.

I therefore condense and give now only a summary of them, sufficiently explicit to enable the reader to judge of the value and practicability of the method, the requirements for which I formulated in the beginning of my investigations to be a preparation or vaccine, absolutely free from real or even supposed danger, powerful enough to act by one or two applications, uniform in action to a degree that the results need not be proved in practice, and simple enough so that any general practitioner can apply it.

The preparation which I have made and used contains all the soluble proteid constituents of the tubercle bacillus with addition of a small amount of fatty extractives. It would require far too much space to describe the mode of preparation at this place, but this will be done in detail in the complete report, which will appear at an early date.

In the selection of cases, my earlier precautions of excluding children presumably already the subjects of tuberculous infection, were found unnecessary and only such were excluded as showed active symptoms or had progressed to the open stage of pulmonary phthisis.

There have been no marked general reactions in the normal or in the supposedly infected children; in the latter sore arms, in a few instances with more or less diffused redness and swelling, were more frequent, and in all other cases a slight degree of tenderness, lasting twenty-four to forty-eight hours, was the usual observation.

My object in the study of doses having been to find that quantity which, while causing no marked general or local reactions, was efficient, I adopted 0.05 c.c. and 0.1 c.c. for nurslings according to their ages, and from 0.2 to 0.3 or 0.4 for older children, as a single dose. When two doses were given, the first was half and the second slightly less or the same in amount, as the single case.

The total number of children immunized since last July is 339. Of these 262 were made available to me by the interest and courtesy of Dr. C. A. Julian of Thomasville, N. C., where in the Baptist Orphanage in the earlier part of last October, with his cooperation and the aid of my assistant, Dr. A. E. von Tobel, the necessary preliminary and subsequent examinations were made, which, as in seventy-seven children immunized in Asheville, included the recording of their general condition, present enlarged lymph-nodes, physical signs in the lungs, tuberculin tests, blood studies and serum examinations of antibodies, before and after the administration of each dose; and reexaminations in 300 children were made from three to eight months thereafter.

These examinations justified their grouping:

As normal	85.
As suspects (probably tuberculous)	94.
As tuberculous	160.

In the preliminary examinations slight and occasionally well-marked physical signs were present in the lungs in 118 of those classed as tuberculous, most children being over 10 years of age, while in those classed as suspects the children were usually under that age and lymph-node enlargement, most frequently that of the cervical and axillary groups, was almost the rule.

The determinations of blood-states by cell-counts and hemoglobin, per cent. of alkalinity, and of serum tests for specific antibodies represent a total of over 3,000 individual examinations, and from their tabulations I give the following averages:

	Average
Blood Alkalinity.[1]—Preliminary	0.85 per cent.
After first dose	1.05 per cent.
After second dose	1.20 per cent.
After from three to eight months	1.20 per cent.

Serum Agglutination.—In normal children there were comparatively few in which agglutination was positive in serum dilutions of 1:5, and only rarely was this the case in dilutions of 1:10, while in preliminary examinations of the probably and presumably tuberculous children, the minimum was 1:5 and the maximum 1:40 with an average of 1:12.

	Average
Examinations after the first dose	1: 50
Examinations after the second dose	1:112
Examinations three to eight months later	1:100

Preliminary examinations in complement fixation were made in 110 children, most of them suspected or believed to be tuberculous. In twenty-five of the normal children and in the study of complement fixation of serum specimens from 100 new-born children, for other purposes, complete fixation was never observed in serum dilutions of 1:4, a trace only being shown in two instances. In the groups of children probably tuberculous and accepted as such, the eighty-five determinations made showed complete fixation with a low precipitin curve, in serum dilutions of 1:4 in six and a trace was shown in fourteen cases.

My records of complete complement fixation after the first and second doses and on reexaminations from three to eight months later show:

Complete fixation in serum dilutions averaging:
1:24 after first dose.
1:20 after second dose.
1:22 from three to eight months later.

These averages represent findings when the blood specimen was taken during the positive phase without, however, awaiting its acme, the guide for the positive phase having been the state of the precipitin curve, to the relation of which with Wright's opsonic index I have

1. The blood alkalinity was estimated by Dare's method, which is based on a normal of 286 mg. sodium hydroxid per 100 c.c. of blood. We have repeatedly controlled the results obtained with trituration methods and found no material difference. Appreciating that no method is absolutely accurate, that of Dare has the advantage of rapidity and appears to serve for comparative studies as well as any other.

V. 58
1912

called attention heretofore, showing that a low precipitin curve corresponds with a high opsonic index and *vice versa*.

It will be noted that there was no increase after the first dose in the averages shown; and I may add that no marked difference was observed in individual cases. I should, however, state that the relation between the precipitin curve and the degree of complement fixation was not absolute in the sense that the serum specimen from another or from the same child at the same precipitin curve gave invariably identical readings.

Quantitative variations were also noted in other respects, especially in comparative studies with the several proteins and the fatty acids and neutral fats, with the usually employed emulsions as antigens, which were made under due precautions as to possible differences arising in technic, in inactivation, serum dilutions, standardization of the several antigens, incubation and in the hemolytic system employed.

The results observed are illustrated in several tabulations which appear in the full text of this communication.

Table 1 represents one of my complete records in the case of a probably tuberculous child. In addition to showing the variability in complement fixation, it shows the response of the organism to a single dose of 0.2 c.c. of the preparation after five preliminary daily observations six hours after the dose was given, and for the next seven consecutive days. The results of reexamination in complement fixation in the sixth and seventh months being also added.

Table 2 is illustrative of variability of complement fixation with several of the antigens on successive days, showing coincidences of fixation with all of them, when the serum was likewise lytic *in vitro*, indicating also the high degree of immunity induced and maintained in the case of a non-tuberculous child immunized eight years ago, with one of the constituent proteins of the preparation.

Table 3 gives hourly observations of like variation in the case of an immunized adult to which are added several daily records, the last of which shows a similar coincidence, when the serum was lytic in its action. These and many other similar observations will eventually find their explanation by further study and experiment, perhaps in respect to a multiplicity of the haptophore groups of the specific amboceptor, of fitting complements or specific opsonins.[2]

In further reference to serum studies, I may add that the determination of the precipitin curve was useful chiefly as a guide to the positive and negative phases of complement fixation and that in the tabulation made for the study it appeared as a rule higher and more variable in tuberculous than in normal children, in the former not reaching the low point as frequently and in some cases not at all until several months after giving the immunizing dose.

The opsonic index in preliminary examinations was usually normal in normal children. It averaged 0.85 per cent. of the normal, with a minimum of 0.50 per cent. for the probably or presumably tuberculous. Its marked increase was not missed in any child on subsequent examination, when the serum specimen was taken in the positive phase.

Studies of the so-called immune opsonins, with normal salt solution as a control, show that these likewise varied inversely with the precipitin curve and that the degree of opsonic power shown is in approximate relation with that of complement fixation, reaching the salt level in serum dilutions of from 1:500 to 1:1000 or more, when complement fixation occurred in dilutions of 1:20 or 1:40.

The general results shown after periods of from three to eight months in immunized tuberculous children were marked by the improvement of their general appearance and nutrition when previously deficient, not only by comparison of records, but also as evident to those who observed them continually.

Increase in weight was uniform and especially apparent when this had been markedly below normal, amounting frequently to 10 and from that up to 40 pounds and was therefore in excess of the normal increase of a growing child.

In regard to the effect on enlarged lymph-nodes, while difficult to compare, I can state that in numerous instances none were found when their presence had been recorded or only one or a few were found when the records showed many previously present.

More accurate comparison was possible in regard to physical signs, especially when these had been recorded on a special chart. Frequently they had entirely disappeared and there was not a single instance in which a comparison did not indicate unmistakable improvement.

Having shown the prompt and uniform development of all specific antibodies after a single dose of the preparation by the method described, and the induced immunity as shown by serum tests being still evident in like degree in every patient reexamined from three to eight months later, and in one case after a lapse of eight years, and having in numerous instances been able to show much longer permanency in therapeutic immunization with one of the constituent proteins, I proceed now to the relation of experimental studies designed to show that the method is ample to protect against virulent infection.

BACTERIOLYTIC STUDIES

My bacteriolytic studies with immune serums *in vitro* designed for this purpose were not immediately successful to the desired degree. By various modifications of the technic, but especially by the use of fresh active immune serum and by the study of the effects of serum specimens in regard to their power of complement fixation with other bacillary products than T.B. Emulsion as antigens, I was enabled to obtain the satisfactory results which will be noted in reproductions of my mounted slides.

The microscopic specimens show that normal serum has no lytic power *in vitro;* that with a serum in which complement fixation occurs with only one or two antigens, and especially if fixation is absent with the fatty extractives of tubercle bacilli, the lytic effect *in vitro* is also absent, or at best but partial, that when the serum specimen shows a coincidence of complement fixation with all the antigens, the lytic action of the immune serum *in vitro* is complete to a degree that only a few fine indifferently stained clumps of granules may be found.

ANIMAL EXPERIMENTS

In describing to you the results of my animal experiments, I begin with the first group, which was designed

2. In my studies of this observed variability, which have as yet made but small progress, I have in a number of trials, with like results in each, made the interesting observation that there is a difference in the lytic action of immune serum on tubercle bacilli *in vitro*, when used without previous inactivation as compared with another part of the same specimen after being inactivated and normal serum added for complement, even though the normal serum is taken from the human subject, the inactivation apparently preventing or at least greatly diminishing the lytic effect *in vitro*.

to test the absence or presence of virulence by intraperitoneal injection of tube contents referred to in the preceding experiments *in vitro*.

Of four guinea-pigs used for control, two were infected with tube contents in which 0.01 mg. of virulent tubercle bacilli of human origin had been incubated with normal human serum for twenty-four hours, in the third and fourth animal normal salt solution having been substituted for the serum. The four animals died, two on the forty-first, one on the forty-second and one on the thirty-second day thereafter, all showing on autopsy generalized tuberculosis.

Two guinea-pigs infected with the contents of tubes in which inactivated immune serum plus normal rabbit complement was incubated with the bacilli, but in which no lytic effect was evident *in vitro*, failed to show protection. The animals died on the seventy-sixth and eighty-third day after infection and though they outlived the controls by a month or more, their autopsies showed local tuberculosis.

Of the animals infected with tube contents in which the lytic effect *in vitro* was more pronounced, none died. In five of them which were killed three months later, nothing was found at autopsy beyond a few encapsulated nodules in the omentum or the mesentery, some of them showing slight degrees of central caseation or round-cell infiltration, in some instances a few acid-fast granules could still be shown in smears or in the residue after the whole or unused portion of the specimen was dissolved with antiformin.

In six guinea-pigs infected with tube contents in which the maximum of the lytic effect of the immune serum had been obtained as shown in slides No. 7, 8 and 9, the fatal effect following a few hours thereafter in five, and a week later in the sixth, may be of interest. Five animals were found dead twelve hours after infection. Their autopsies showed the heart distended with blood, the lungs congested and a small amount of serous exudate in the peritoneal cavity; smears from the exudate showed neither bacilli nor granules. The sixth pig lost weight rapidly (100 gm.), and after death on the sixth day, exudative peritonitis was found. The examination of the exudate was also negative.

The results, especially in the five pigs which when found were quite cold and stiff, suggesting that they had been dead for several hours, can be best explained by bacterial anaphylaxis, against the occurrence of which I had believed that I had guarded by the small dose of 0.01 mg. of tubercle bacilli used in the experiment. Aronson in a recent contribution giving 10 to 20 mg. as the minimum for such results. The present observation, with only 0.01 mg. used but the bacilli having undergone complete lysis, appears to confirm those who consider the presence of a specific amboceptor of influence in the production of the phenomenon.

Experiments on rabbits by intraperitoneal injection with 0.1 mg. of virulent bacilli of bovine origin, incubated twenty-four hours as in the previous experiments, gave interesting results. In one animal in which the tubercle bacilli were incubated with normal salt solution and in another with the serum from a new-born baby, death occurred on the forty-seventh and forty-eighth days respectively with practically the same degree of generalized tuberculosis found on autopsy. None of the other animals died. One in which normal human serum of an adult had been used was killed 111 days after infection. The lower lobes of the left lung showed numerous nodules well encapsulated, none of them caseous; but epitheloid and giant cells were found interspersed between tissue fibers. Tubercle bacilli could not be demonstrated in stained sections or in smears made from the residue of a portion of the involved lung tissue after dissolving it with antiformin.

The other two rabbits, in which immune serum had been used, were killed at the same time. Nothing was found whatever as suggestive of their preceding infection.

While the incidental observation of the action of normal human serum limited to a single experiment permits of no conclusion, it is nevertheless suggestive in regard to the relative resistance of adults and infants to bovine infection and justifies further experimental studies which I contemplate making in the near future.

The next group of experiments were made on immunized guinea-pigs for the purpose of observing Pfeiffer's phenomenon after intraperitoneal infections with 10 mg. or 5 mg. of living virulent tubercle bacilli and likewise for determining their resistance to such massive infections.

Pfeiffer's phenomenon in the two normal control animals gave identical results.

After one hour many tubercle bacilli were found free in the exudate with but few in leukocytes.

After three hours the results were the same.

After twenty-four hours there were still many free bacilli in the exudate, but they were also numerous within the leukocytes.

In the immunized animals the results observed were that:

After one hour a few bacilli were found free; many granules and but few bacilli were seen in the leukocytes.

After three hours nothing was found free in the exudate; the leukocytes contained fine granules but no bacilli. After twenty-four hours nothing was found free in the exudate or in leukocytes. Free granules were only occasionally seen in the exudate and the bacillary disintegration appeared to occur after phagocytosis within the leukocytes.

In regard to the further outcome of these infections, I can state that death occurred in the two controls thirty-one and forty-one days, respectively, after infection, the former having received 10, the other 5 mg. of tubercle bacilli. Generalized tuberculosis was found on autopsy in both, the lungs showing greater involvement in the one that lived longest.

Five of the immunized animals were killed ninety days after infection. Their autopsies showed a few firmly encapsulated nodules in the omentum or the mesentery. Three such nodules had caseous centers showing a few acid-fast granules, the others were fibroid in structure throughout.

In my last group of fourteen immunized guinea-pigs and a normal one used as a control, a suspension of 0.01 mg. of virulent tubercle bacilli was injected with a hypodermic syringe into the lumen of the trachea, just above the sternum.

The control animal died twenty-three days after infection. The autopsy showed tuberculosis of the liver, peritoneum, spleen, mesenteric and retroperitoneal glands with but few tubercles in the lungs, but extensive involvement of the bronchial glands which were very much enlarged and pressure from which, causing interference with respiration during life, no doubt accounts for the comparatively early death. The axillary and inguinal groups of lymph-nodes were also found tuberculous.

Five of the immunized guinea-pigs were killed eight weeks after infection. The others, as also some of the

V. 58
1912

animals of the preceding groups, were allowed to live for further observation. They are still in good condition, gaining steadily in weight.

The autopsies of those killed showed from one to three enlarged lymph-nodes, either bronchial or tracheal. In one animal a firmly encapsulated tracheal gland showed control caseation with acid-fast granules in the smears, in the other animals the histologic examination of enlarged nodes showed in addition to their fibrous periphery in the central portions more or less round-cell infiltration, but no tubercle or giant cells were found. In two instances the antiformin residue of the node showed a few fine acid-fast granules, nothing being found by this method in the other nodes.

I have arrived at the end of this summary of my evidence:

The results shown in my bacteriolytic studies *in vitro* and the evident harmlessness of infections with tube-contents in which the tubercle bacilli were more or less disintegrated, would alone establish the fact that the immunity shown in the children is of a high degree without the further confirmations by the study of Pfeiffer's phenomenon, and the evident protection of immunized animals in that series against degrees of infection which are not reached under any kind of exposure of the human subjects, the results of their autopsies, as also those shown after intratracheal infections being the same as may be found when dead tubercle bacilli are used in the experiments. I would not, however, be understood that I am of the opinion that further studies would not be valuable or desirable for the perfection of the method or of the preparation. These studies I am continuing and I hope that others will take them up also. All I feel justified in claiming at this time is that I am the first to have made a successful advent in this most important and promising field of specific prophylaxis, in a disease that leads in the mortality statistics of the human race.

A RAPID STAINING FUNNEL*

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BROOKLYN

The staining of the various elements of organic tissue is, as a rule, a complicated process, and when the sections to be stained are numerous, the amount of time and labor represents quite an item. By means of the funnel devised, this becomes nominal; a thousand sections can be stained in the same amount of time and by the same amount of work as can one.

The instrument consists of a shallow funnel with a stop-cock located beneath the expanded portion. In the expanded portion fits a removable, flat, shallow, finely perforated tray, divided into several compartments. The size of the funnel is about 6 inches in diameter, and the number of compartments depends on the scope of the work, and may be from twelve to twenty-four. The entire apparatus may be made of metal, porcelain or glass. One can readily make the entire outfit (by cutting off the top part of a suitable glass bottle, fitting the neck with a piece of rubber tubing and a pinch-cock, and fitting into the expanded portion a shallow tray made out of finely perforated tin or wire mesh, divided into as many compartments as may be desired). A little air-space between the perforated and the expanded portion of the funnel will allow the air to escape when the stop-cock is closed and fluid is poured into the tray.

This apparatus can be used for both the celloidin and the paraffin methods. The cut sections are placed in the perforated tray, the various tissues and organs being placed in separate compartments so as not to mix them. (If the paraffin method is employed, one has to first fix the sections on cover-glasses in the usual manner — by Mayer's albumin or any other method.) From now on one employs the usual procedure, by pouring, in regular order, on the specimens the various solutions necessary in the process of staining. The time of these various solutions on the sections is regulated by opening and closing the stop-cock, thus allowing the fluid either to remain in the funnel or to drain off into a suitable receptacle.

Funnel for staining tissue section.

For example, if, in staining by the celloidin method, one wishes to employ the usual hematoxylin and eosin stains, proceed as follows: 1. Place the cut sections from alcohol into the perforated tray, open the stop-cocks and allow the alcohol to run into the waste-alcohol bottle. 2. Wash out all traces of alcohol, allowing water to run into suitable receptacle. 3. Close stop-cock and pour on sections, hematoxylin. After three to five minutes, open stop-cock and allow hematoxylin to run into original bottle (the same dye, of course, can be reused). 4. Wash sections with water which allow to run off. 5. Close stop-cock and pour on eosin. After one minute, open stop-cock and allow dye to run into its original bottle (to be used again). 6. Pour on water and allow to run off. 7. Pour on 80 per cent. alcohol; allow to run off or save it. 8. Pour on 95 per cent. alcohol; after the usual exposure, open stop-cock and allow alcohol to run off. 9. Transfer sections from perforated tray to oil of origanum. 10. Mount in Canada balsam in the usual way. Of course the technic is the same, irrespective of the dyes or solutions employed.

ADVANTAGES

1. A thousand or more sections can be stained in the same length of time that it takes to stain one by other methods.

2. The delicate sections are placed in one receptacle and remain there undisturbed throughout the process; hence, less chances of ruining tissue.

3. There is no confusion of tissues, as sections remain in the same compartment throughout the process.

* From the Histological and Bacteriological Departments of the Long Island College Hospital.

4. The same apparatus can be used for both the paraffin and celloidin methods.

5. Stain is economized. No intermediate receptacle is necessary, the dye, after acting on tissue, is collected back into the bottle.

6. Results are uniform, as the same tissues are exposed to dye the same length of time.

7. It makes unnecessary the cleaning of ten to fifteen receptacles containing dyes, etc., and table is not littered with dishes, dyes, etc.

8. One can readily make the apparatus himself at a trifling cost.

907 St. Marks Avenue.

THE FEMALE PERINEUM FROM A GENERAL SURGEON'S POINT OF VIEW *

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Many years ago I was impressed by the fact that common operations for perineal repair dealt with fascia only, although operators spoke of catching up muscles which were not actually seen. Examination of perineums repaired in classical ways seemed to indicate that permanently satisfactory results are often missed. The general surgeon likes really to see muscles which he brings together for purposes of repair.

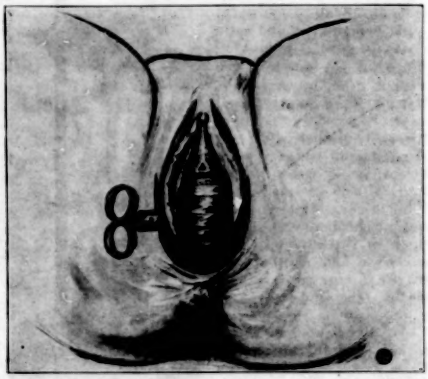

Fig. 1.—Scissors stabbed to pubococcygeal margin of levator ani muscle.

Dissections of ruptured perineums showed that atrophy of most of the muscles and fascia took place rather rapidly when they were thrown out of commission. One muscle, however, remains plump and full because it continues to act in a special function. This is the pubococcygeal portion of the levator ani muscle. If the full free margins of this muscle are exposed and brought together in the mid-line with three or four kangaroo tendon sutures, the most important contractile part of the perineum is strongly restored.

A second line of sutures, coapting margins of perineal fascia, brings into place whatever remains of the transverse muscles of the perineum and neighboring remnants of the sphincters of the vagina and anus.

Haynes[1] describes elaborately the anatomy of this region, together with the steps required for restoring what he calls the pubococcygeal "hammock," consisting of the external sphincter of the anus, sphincter vaginæ and the transverse muscles of the perineum. He introduces a refinement over my former operation, in paying particular attention to union of the sphincters with each other, completing the hammock.

My operation for repair of the perineum, however, has been satisfactory without definitely regarding this refinement of Haynes, because it is probable that remnants of sphincters were actually included in the continuous fascial suture overlying the muscle suture of the levator ani.

My views on the subject of perineal operations in the female may be briefly stated as follows: In the freshly torn perineum one cannot make nice anatomic union of structures which are contused and lacerated; consequently *en masse* repair must be done. Very good union is commonly obtained, because this is one of the "protected areas" of the body, and infection of tissues does not readily occur if Nature's antiseptic, the normal lochial fluid, pours over the wound freely and continuously.

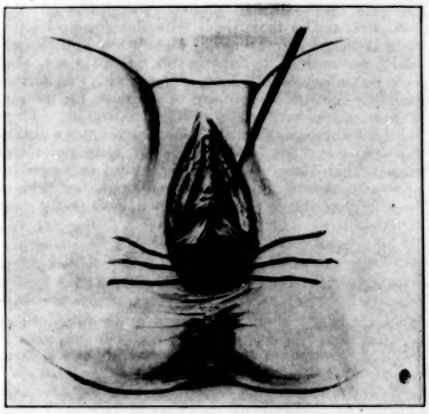

Fig. 2.—Sutures for uniting margins of pubococcygeal portion of levator ani muscle.

If immediate repair does not succeed, the nice anatomic operation should be done within the course of a few months, before muscles and fascia thrown out of action have undergone atrophic changes. Good repair may be made, however, years afterward, even with complications of rectocele and cystocele present, if we properly utilize the levator ani muscles, which have not undergone changes of consequence.

The anatomic operation can be done speedily and thoroughly, requiring but a few minutes of time, with no other instruments than a pair of straight, sharp-pointed scissors and a Hagedorn needle.

* Read at the meeting of the Medical Association of the Greater City of New York, April 15, 1912.

1. Haynes, Irving S.: Am. Jour. Obst., 1908, lviii.

V. 58
1912

TECHNIC

Make a horse-shoe incision, beginning just above the anus, and extend the incision arms ventrad to points nearly opposite the urethral meatus. Put a finger in the vagina, and feel the well-rounded margin of the pubococcygeal portion of the levator ani muscle on one side. Enter the point of the closed scissors in one arm of the horse-shoe incision, stab the closed scissors down to the muscle that is felt by the finger, open the scissors *in situ* widely, stripping the muscle free for a couple of inches. Repeat the process on the opposite side. Lift up the vaginal flap with a tenaculum and snip all fascia interposed between the levator ani muscle margins. Hook a large curved Hagedorn needle armed with kangaroo tendon into one levator ani muscle margin, then into the opposite one, and lift the two out plainly in sight by pulling on the suture. Tie the suture, but leave long ends for traction purposes until two or three more kangaroo tendon sutures have reconstructed this important contractile part of the perineum. Next, run a continuous suture of small kangaroo tendon through margins of perineal fascia, and bring these fascial margins together. This will approximate pretty well whatever remains of transverse perineal muscles and

Fig. 3.—Sutures uniting margins of perineal fascia and placing in action remnants of sphincters and of transverse perineal muscles.

sphincters. Bleeding may usually be disregarded during the course of the operation, as it practically stops by the time the suturing is completed.

Leave room for the tips of three fingers in the vagina. When all of the deep suturing is completed, there should be just room in the vagina for the entrance of the tips of three fingers used as a gauge.

Finally, unite margins of skin first with a single interrupted suture of small chromic catgut in the mid-line for artistic symmetry. The rest of the skin sutures, preferably of small chromic catgut, may be continuous or interrupted as one pleases, but not drawn too snugly; leaving room for escape of oozing blood.

Dust the suture line with aristol. Put on a firm pad with T-bandage, for compression to stop oozing, for a few hours. Empty the bladder by catheter for three days. Keep a handful of dry gauze between the thighs, against the perineum, to avoid maceration of sutures, for a week.

In cases with complete rupture of the external sphincter of the anus, a second horse-shoe incision is made, with the arms pointing dorsad. Expose the blunt ends of the contracted sphincter ani, unite them accurately with one or two kangaroo tendon sutures, and then proceed to do the chief perineal operation above described.

Cases with very extensive perineal lacerations, involving walls of rectum and vagina, requiring special technic, are not described in this article, the object of which is to present a really satisfactory perineal operation, requiring but a few minutes of time for its performance and applicable in most of our cases as they run.

616 Madison Avenue

SALVARSAN IN PELLAGRA

REPORT OF CASES TREATED AT THE GEORGIA STATE SANITARIUM IN 1911

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The treatment of pellagra has demonstrated only the absolute futility of the drugs used. We constantly hear of some specific, which, on a fair trial in the hands of those in position to pass on the remedy, proves to be an utter failure. Too many spontaneous cures are accredited to the use of drugs or some line of treatment.

Among the first drugs strongly advocated was atoxyl. This preparation of arsenic was given a fair trial by Dr. N. P. Walker, of the Georgia State Sanitarium, who decided that there had been no effect made on pellagra so far as he was able to see. Subcutaneous injection of bichlorid of mercury proved equally useless.

Hexamethylenamin (urotropin), also used by Dr. Walker, produced no beneficial effect that he was able to observe.

Mizell, of Atlanta, strongly advocates the use of calcium sulphid. In a recent article he says: "In fact, the results are so prompt that I would feel like claiming specific action without a knowledge of its chemical action." Again: "In one case in which the eruption had been continuous for twelve months, the patient, although being treated by arsenic, was relieved in twelve hours; was out of bed in three days, and had no erythema in ten days." Quoting again: "In all cases this drug is all that is necessary to relieve aggravated cases of simple pellagra." These quotations show this observer's faith in his remedy.

Calcium sulphid was given a careful and systematic trial by me and my assistant absolutely without success.

Baker, of Augusta, Ga., advocated sodium bicarbonate, 0.3 gm. every four hours, and 0.3 gm. pancreatin, in salol-coated tablets, every four hours, a meat-free diet, and stressing carbohydrates.

CASE 1.—J. C., a well-nourished, middle-aged colored man, resisted all other treatment. Late in the summer of 1910 he was put on this line of treatment and the effect was remarkable. He became entirely well, and was discharged as clinically cured. We have not heard from him since.

The following early summer this treatment was inaugurated in some eight or ten colored females and was uniformly unsuccessful. J. C. "just got well."

Walker and Yarbrough, in the spring of 1911, gave salvarsan to three pellagrous patients.

CASE 2.—P. T., a well-nourished, middle-aged, colored woman had a most severe attack, and was thought to be in a hopeless condition. Salvarsan was given intravenously; recovery was prompt and complete, except mentally. She gained rapidly in weight and was permitted to go home clinically cured. We have not heard from her.

Case 3.—N. D., colored woman, aged 23, had first symptoms probably in 1909; admitted to the sanatorium in October, 1910; following spring developed classical pellagra symptoms; was given salvarsan intravenously. All the symptoms cleared up, and she remained well until April, 1912, when she complained of severe abdominal pain and she has slightly inflamed tongue and marked tremors now (April). Benefit, if due to salvarsan, is only temporary.

Case 4.—L. C., colored woman, well nourished, aged about 25, developed classical symptoms of pellagra in the spring of 1911; was given salvarsan intravenously. All the symptoms cleared up promptly, and she remained entirely well until the early part of March, 1912, when she had a sudden rise in temperature to over 105 F. with general prostration. Nothing pointing to other troubles developed, and we were finally forced to admit the return of pellagra. Diarrhea then developed. She was again given salvarsan on March 16, 1912, and her general condition has improved slightly, high temperature immediately disappearing. Benefit, if due to salvarsan, was only temporary.

Following this work by Walker and Yarbrough, I gave salvarsan in eight cases in the summer of 1911.

Case 5.—A. B., a colored girl, aged 16, laborer, developed first symptoms probably in the summer of 1910. In the spring of 1911 she developed classical symptoms of pellagra; was given salvarsan intravenously and all symptoms abated nicely, and the patient was permitted to go home on furlough in the late winter, clinically cured.

Case 6.—N. S., well-nourished colored woman, aged 39, was said to have developed classical symptoms of pellagra, nervous type, for the first time in April, 1911. She was given salvarsan July 29, 1911, intravenously. Before treatment the patient had been having convulsions for about one week. Following administration of the drug convulsions stopped. The skin, tongue and intestinal symptoms promptly cleared up. Aug. 23, 1911, patient had three convulsions within four hours and died in the fourth. Benefit in this case, if due to salvarsan, was very brief.

Case 7.—T. S., emaciated colored woman, aged 32, showed first symptoms of pellagra in the fall of 1910. In the spring of 1911 patient developed typical symptoms of pellagra, nervous type, and was given salvarsan intravenously Aug. 11, 1911. Following this there was slight intestinal improvement, but otherwise no change. Patient died Aug. 26, 1911. No benefit.

Case 8.—J. F., fairly well-nourished colored woman, aged 22, laundress, in the summer of 1911 developed typical pellagrous symptoms, nervous type. She was given salvarsan intravenously, and mouth symptoms cleared up. Her general condition showed little improvement. She dragged along until Jan. 6, 1912, when she died of a complication of nephritis, meningitis, atelectasis of the right lung, etc. Benefit in this case, if due to salvarsan, slight.

Case 9.—N. N., a well-nourished colored woman, aged 26, in the spring of 1911 showed classical symptoms of pellagra (probably the first) with mania. July 20, 1911, salvarsan was given intravenously. July 30 there was a general improvement in the skin, bowels, tongue and mental symptoms. Aug. 4, 1911, she was reported much worse, gradually grew weaker, and died Sept. 22, 1911. Benefit, if due to salvarsan, brief.

Case 10.—M. J., poorly nourished colored female, aged about 16, in the spring of 1911 developed nervous type of pellagra; was in rather bad shape when salvarsan was given July 29, 1911. By August 22, all symptoms had slightly improved except twitching of the upper lip, which had not abated. She is virtually the same now as when given salvarsan. Probably no benefit in this case.

Case 11.—A. L., fairly well-nourished colored female, aged 30. Second attack. Salvarsan given intravenously Aug. 5, 1911. On August 30 there was general improvement. December 15, bowels were normal; tongue red on edges and fissured; skin symptoms improved but not well. March 25, 1912, general condition good, but roughening over elbows noticeable; tongue showed tremor and slight inflammation, and she has had severe abdominal pain for a week (April). Benefit, if due to salvarsan, was not permanent.

Case 12.—O. S., well-nourished colored female, aged 27. First attack of pellagra, which is typical, developed Aug. 11, 1911. On August 16 salvarsan was given intravenously; on August 22 all symptoms had disappeared. August 25 patient was in excellent condition. She had remained well until the past few days (April, 1912) when she complained of nausea, which we are disposed to attribute to the return of pellagra. Benefit, if due to salvarsan, was marked but not permanent.

Of the eleven patients given salvarsan in 1911, two went out on furlough clinically cured, and we have not heard from them since the opening of the pellagra season. One was supposed to have been well until the nausea developed a few days ago (April, 1912). As stated, this is construed as a return of pellagra; three have relapsed and have been treated the second time; one is unimproved; four are dead. Not a very encouraging showing.

In percentages: 18 per cent recovered; 9 per cent. unimproved; 36 per cent. relapsed, and 36 per cent. died.

Dr. Martin, of Hot Springs, Ark., gives us a very good paper on salvarsan and pellagra, and would explain my failure to get results by saying I should have repeated my treatment every ten days, as that appears to be the cycle of the theoretical pellagra germ. Perhaps so. The symptoms in my cases, however, have not shown the prompt and spectacular abatement that his cases have shown.

I am forced to the conclusion that we have not as yet found a cure for pellagra. Salvarsan, however, has not been given a thorough trial as yet, and it may be that the coming spring will develop obscure points in the use of salvarsan that will bring more certain and permanent results than I have been able to obtain with its use thus far.

V. 58 1912

A CASE OF FATAL HEMATOPORPHYRINURIA FOLLOWING THE PROLONGED USE OF TRIONAL AND SULPHONAL

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Because of the unusual occurrence of this condition it might be well to define it and consider it briefly from a historical standpoint.

Hematoporphyrin is described as hematin without the iron, and, in minute traces, occurs as a constant constituent of normal urine. Hematoporphyrin is frequently present in the urine in increased quantity in disease, but without being associated with any obvious change in the color of the urine. This form of hematoporphyrinuria is seen in many ailments and was first described in connection with measles and rheumatic fever. Again hematoporphyrin may occur in great excess in the urine associated with a distinctly abnormal color described as pink, dark brown, port wine or almost black. Until recently it was supposed that it was the hematoporphyrin which caused these abnormal colors, but we now know that other elements, as yet unrecognized, are responsible for this, since these changes in color occur without discoverable hematoporphyrin in the urine and even persist after its removal.

Hematoporphyrin appears in the urine in pathologic quantities under two conditions:

1. A class of rare cases due to disturbed metabolism, apparently of gastro-intestinal origin. This type is more liable to be intermittent or paroxysmal, or again the condition may exist for many years. In this group the abnormal condition of the urine seems not to be in itself of any very grave significance.

2. In a larger class of cases we find that hematoporphyrinuria is a symptom of drug intoxication, usually sulphonal, trional or veronal. The condition is only seen in those cases

in which one or more of these drugs have been used over a more or less prolonged period and not in acute poisoning.

Several years ago I had a patient who had taken, with suicidal intent, 120 grains of trional in one dose, but no observable changes in the urine followed:

The patient was a man, aged 39, suffering from chronic neurasthenia. For several years he had suffered from pronounced insomnia and had been accustomed to take more or less trional. Having had him under my observation for several weeks at a time during the past four years, I am confident that he was not immoderate in the use of hypnotics until early this winter. While at home he had an acute exacerbation of all his symptoms and began the use of increasing doses of sulphonal and at times would use trional. Jan. 24, 1912, he again came under my observation and so far as I could judge had averaged about 12 grains of sulphonal each twenty-four hours for from four to five weeks with an occasional dose of 15 grains of trional. At this time he exhibited a series of new symptoms, viz., profound exhaustion of body and mind, obstinate constipation, tympanites, nausea, occasional vomiting and much abdominal pain which he localized around the umbilicus. The urine was scanty and presented the appearance of free blood, but failed to react to blood tests. The above symptoms gradually grew worse and during the next ten days his condition became critical. He was unable to retain anything on his stomach; the bowels acted as if obstructed and tympanites was intense. Morphin was necessary to relieve the abdominal pain and give him some sleep. At this time the urine was passing more freely and was of a dark port-wine color. Death from exhaustion occurred February 18.

Dr. Arthur Patek of Milwaukee kindly made a urinalysis which he reported as follows: Specific gravity, 1.022; slightly acid; color distinctly a dark port-wine; sugar and albumin negative; negative to free blood tests; microscopically nothing was found but a few small hyaline and granular casts; no blood-cells or other cellular elements.

It would seem from the description of cases in the literature and from the case just described that the symptoms of this condition were quite well defined, namely, marked gastric distress with almost continuous vomiting, continuous abdominal pain, particularly around the umbilicus with tympanites, obstinate constipation and the usual characteristic discoloration of the urine.

The number of these cases described are quite limited. Günther summarizes the fourteen acute cases reported up to date; five of the patients died, the others recovered. He also reports nine cases of chronic hematoporphyrinuria which he speaks of as congenital and not due to drug intoxication.

The treatment of this condition has been wholly empirical. Sodium bicarbonate, in large doses, has been recommended, presumably to offset the effect of some gastro-intestinal toxin and the stimulation of elimination through the bowels preferably by the free use of magnesium sulphate.

My only comment on the outcome of this case is that it is one more vigorous argument against the all-too-prevalent laxness in prescribing and the failure of the physician to prevent the refilling of his prescriptions without his consent, and to caution his patients against the dangers in the use of all these coal-tar derivatives.

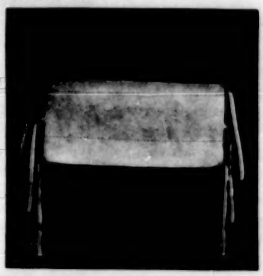

Fig. 1.—Face-mask of heavy muslin sheeting with wire frame to be slipped into it; for use as in Figure 3.

Fig. 2.—Improved adjustable cap. It will be noted that the cap is open in the back and has tie-strings so that it is adjustable to any size head.

Fig. 3.—Front and side view of cap and mask in position. The wire, bent at the nose like a pair of spectacles, prevents undue pressure on the nose, although the tip is covered, and holds the mask away from the face, making it cool and comfortable. At the bottom, the neck is protected, as well as the chin. Any perspiration runs down inside of the mask.

A FACE-MASK

MALCOLM E. SMITH, M.D., Seattle, Wash.

For the past eighteen months I have used, in the Copper River and Northwestern Railway Company's hospital, at Cordova, Alaska, where I have been chief surgeon, a face-mask showing the following features:

The mask is made of heavy muslin sheeting which is easily slipped over a nickeled wired frame somewhat resembling bowed spectacles and is firmly secured in the back with three pairs of tapes. The frame holds the mask sufficiently far enough from the face, without obscuring the line of vision, thoroughly to protect the operative field from perspiration or any excretions from the wearer's mouth and nose (Fig.1).

The material is less pervious than manifold layers of gauze. This greatly lessens the expense, as it is designed to be laundered before each sterilization and used repeatedly. It is light, cool, easily put on and stays in place without binding or annoying the wearer, thus greatly adding to his comfort. It may be readily adjusted to the features of various individuals.

With these masks I use caps of the same material, open in the back and fitted with draw-strings (Fig. 3). As placed on the market by Sharp and Smith, Chicago, each package contains four masks and four caps. After each operation the muslin is detached from the frames, laundered, replaced on the frames and put in packages, to be sterilized for a subsequent operation.

Cobb Building.

Transmission of Infectious Diseases.—Every competent health officer of to-day bases the chief work of his department on the fundamental conception that, so far as our present knowledge goes, every contagious disease is dependent for its spread on the transfer of tangible material from a specifically infected person to the next victim. He further knows that this infectious material is given off from the affected individual in the body secretions and excretions, except in that group of diseases in which some insect carrier acts as an intermediary host.—Levy in *Am. Jour. Public Health*, January, 1912.

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SATURDAY, MAY 18, 1912

THE ANASTOMOSIS OF THE PORTAL VEIN AND THE VENA CAVA

Eck's fistula, involving the establishment surgically of a communication between the portal vein and the vena cava, is familiar as an experimental device for diverting the portal blood from the liver and thereby altering the activities of that organ. The difficulties of technic involved in the operation and the delicate manipulations which such blood-vessel anastomosis calls for have restricted the employment of this method of partial liver exclusion to a few skilled investigators. From year to year improvements and simplifications of the technic have brought this important surgical expedient within the range of an increasingly larger number of experimenters.[1]

Eck's original intention was to employ the operation for the palliation of certain pathologic conditions, notably abdominal ascites due to cirrhosis of the liver. He never ventured, however, to perform it on human beings. The earlier reports of the behavior of dogs with Eck fistulas indicated that the animals with a side-tracked portal circulation were extremely sensitive to an exclusive meat diet, apparently developing some form of poisoning from products of the digestion of meat which are ordinarily carried directly to the liver and presumably detoxicated there. This injurious effect of a pure meat diet under these conditions has repeatedly been confirmed.

Bernheim and Voegtlin[2] have found, however, that on a mixed diet, consisting of milk, meat and bread, Eck fistula dogs will live for a long time without showing any noticeable abnormalities. They gain in weight and are lively in appearance. The sexual functions are not impaired. The urine does not contain any abnormal constituents, despite the marked alterations in the conditions of the hepatic circulation. Nevertheless certain metabolic processes are found to be more or less depressed. There is a lessened tolerance for sugars. The formation of bile constituents is decreased, often to such an extent that ligation of the common bile-duct is not followed by obstructive jaundice. Obviously much less blood passes the capillary system of the liver and therefore fewer red blood-corpuscles, the ultimate sources of the bile pigments, are brought into contact with the liver cells. The hemolytic functions of the liver are diminished. Bernheim and Voegtlin are confident that the portal vein and the vena cava will be successfully anastomosed in human beings in the near future. They hold that the feasibility of the operation is beyond question and believe that it is perfectly compatible with life. The dangers of intoxication by errors of diet in individuals with occluded portal circulation is remote; and surgeons like Bier in Germany and Vidal in France look forward to a satisfactory application of the Eck fistula operation.

The Baltimore investigators remark: "In those suffering from cirrhosis of the liver, we believe that an Eck fistula will give the relief that has been earnestly desired. It is only necessary to obtain a patient early enough in the course of the disease to carry out the various steps of the procedure." Meanwhile further experimental investigations in this field would seem worth while.

1. The most recent improvement is that of Bernheim and Voegtlin, described in Johns Hopkins Hosp. Bull., 1912, xxiii, 46.
2. Bernheim and Voegtlin: Is the Anastomosis Between the Portal Vein and the Vena Cava Compatible with Life? Johns Hopkins Hosp. Bull., 1912, xxiii, 46.

THE NATURE OF HYPERTROPHY OF THE PROSTATE

It is said that from 35 to 50 per cent. of all men over sixty years of age have an enlarged prostate, although not all of them may show symptoms. The nature of the causes of these enlargements has long been the subject of discussion and study. Ordinarily it is said that the so-called hypertrophied prostate is usually predominantly fibromuscular or glandular in structure, both these changes occurring diffusely or nodularly, nodules being the rule, however, in the glandular form, which is the more frequent. Of the causes that have been advanced from time to time may be mentioned heredity, active and passive hyperemia, arteriosclerosis, retention of prostatic concretions and cessation of the internal secretion of the testicle; but most numerously supported is the oldest view of all, namely, that it is an "idiopathic" affection of unknown cause.

Of recent years some have urged that the underlying process leading to prostatic enlargement is essentially inflammatory and dependent in most part on ancient gonococcal infection, which finally has led to proliferation of the connective tissue about the ducts with narrowing of the lumina and consecutive changes in the gland. On the basis of a thorough examination of a large number of hypertrophied prostates, Runge concludes that it practically always involves processes of an adenomatous character. These growths fall into three groups: first, intracanalicular papillary adenomas; second, intracanalicular papillary fibro-adenomas; and third, tubular adenomas. The distinction between the simple adenoma and the fibro-adenoma is based on the amount of con-

V. 58
1912

nective tissue apparent. Chiari,[1] in whose institute this work was done, agrees that in by far the largest percentage of enlarged prostates, the process is an adenomatous overgrowth, independent of inflammation, neoplastic in character. The new tissue consists largely of newly formed glands with high cylindrical epithelium from which emerge epithelial sprouts that eventually form typical papillæ, recalling very much the hyperplasia observed in certain goiters. The tissue between the adenomatous areas may show signs of atrophy from compression, the smooth muscle tissue not being increased. In a few instances of prostatic enlargement, however, there is little or no glandular proliferation, but increase in the muscular and fibrous tissues, so that one may speak of a muscular or fibromuscular overgrowth. These forms, however, are much less frequent than the adenomatous forms. Very rarely, indeed, pure myomas occur in the prostate.

These results consequently do not support the view that prostatic hypertrophy is the result of inflammatory changes, but bring us back to the old idea that it is an idiopathic new growth of the structural elements of the prostate. Of course, inflammatory changes may develop secondarily in the enlarged gland. It would seem that this general conclusion harmonizes best with the fact that many patients with hypertrophied prostate never have had inflammations of the urinary tract, gonorrheal or otherwise. As in the case of human tumors in general and of the analogous proliferations in the thyroid gland and in the mammary gland, the exact cause of prostatic hypertrophy must be regarded as not yet understood. It naturally lies near at hand to associate the changes in the prostates of old men with circulatory disturbances in the organs of the pelvis.

1. Strassburger Med. Ztg., 1912.

SUMMER DRINKS AND BACTERIA

The summer days will soon be here again, bringing with them both the joys and the dangers of the heated season. Among the special requisites of the warm weather are the carbonated beverages, with "soda-water" in its various manifestations as a most conspicuous type. To a very large class of our population these non-alcoholic drinks appeal so strongly as refreshing and innocuous forms of fluid intake that their purity and harmlessness ought to be adequately safeguarded. In respect to the presence of preservatives, artificial coloring matter, saccharin and similar sophistications, the "summer beverages" have been subjected to a careful control by the various authorities entrusted with the enforcement of the food laws. But there appears to be a current misapprehension in respect to their bacteriologic features which needs to be counteracted.

There is said to be a tradition among bottlers of carbonated soft drinks, founded, as far as can be learned, on very meager experimental data, that the conditions under which these beverages are prepared are destructive to bacteria. There has likewise been an unwarranted indifference to the bacterial contamination of many bottled potable waters whose sparkling appearance and attractive labels have commended them without regard for the possibility of danger lurking within. The basis for the assumed hygienic safety of the carbonated waters presumably rests on the statements that carbon dioxid under pressure is highly destructive to microorganisms. One fact to be borne in mind in this connection is that during the summer months in many cases these "bottled goods," such as ginger ale and "pops," are consumed within a short time after bottling; so that only a brief period is allowed for a microbicidal effect to manifest itself. This question has been investigated with respect to two well-known pathogenic organisms, *B. typhosus* and *B. coli*, as well as *B. prodigiosus*, under conditions imitating those which pertain in the trade.[1]

The investigations of Young and Sherwood at the Kansas University Water Laboratories show that, although there was a marked reduction in the number of organisms introduced into both carbonated and uncarbonated waters with syrup, there was not a complete killing out of the organisms introduced, during the entire experiment. They state that inasmuch as only "the most hardy individuals can resist these adverse conditions for a considerable length of time, the logical conclusion is that no water should be used in the manufacture of a carbonated drink that is in the least suspicious, and if a doubtful water is the only source of supply this should be subjected to treatment by some method of sterilization with subsequent filtration through a trustworthy and efficient filter."

1. Young and Sherwood: The Effect of the Environment of Carbonated Beverages on Bacteria, Jour. Indust. Engineer. Chem., 1911, iii, 495.

THE UNRECOGNIZED DANGERS OF CHLOROFORM GIVEN DURING CHILDBIRTH.

That the pregnant woman possesses a peculiar immunity to the evil effects of chloroform is a belief which has had almost unchallenged acceptance, ever since Sir James Clark made this anesthetic popular in obstetrics by its use on royal subjects. Text-books on obstetrics approve the teaching, and it passes current in class-room, in clinic and in practice. So far as immediate fatal cardiac or respiratory failure is concerned, it probably is true that such catastrophes rarely do occur in women under chloroform during childbirth. But in the past few years we have learned that immediate serious poisoning by chloroform, dangerous as this anesthetic is in this respect, is probably of less importance than the remote effects which follow some time later, the result of a severe and almost selective toxic action which chloroform has on the liver. Extensive fatty change in the liver, with severe intoxication accompanied by acidosis, is frequently observed, espe-

cially in children, and in adults even more often a wide-spread necrosis of the liver and profound intoxication, resembling acute yellow atrophy and causing death in a few hours, has been found to result from even moderate use of chloroform as an anesthetic. This effect of chloroform on the liver constitutes a grave danger and a serious obstacle to its wide-spread use, for it is not always possible to anticipate any special predisposition to such an accident in any given operation.

That pregnancy should confer an immunity to this effect of chloroform seems improbable, especially when we recall how frequently "acute yellow atrophy of the liver" has been reported as a sequel of childbirth, just as it has also been described as a sequel to operations. If the liver changes in the latter cases are now found to be commonly the result of chloroform, is it not highly probable that the same agent accounts for many of the puerperal cases? The possibility of such a result from chloroform administered during labor is rendered even more significant by the fact that in the puerperal state the liver often suffers severe damage from unknown causes, as seen in its maximum degree in eclampsia, and such injury would predispose to a toxic effect of chloroform. Indeed, the connection between acute yellow atrophy of the liver and the use of chloroform in pregnancy has been noted clinically by some observers, and the danger of the common use of chloroform to control the convulsions of eclampsia was pointed out several years ago by Lyons.[1]

Experimental evidence has now been furnished by Whipple[2] that pregnant dogs are fully as susceptible as normal dogs to this toxic effect of chloroform on the liver; and as dogs react to chloroform in quite the same way as man, by extensive necrosis in the centers of the lobules, it would seem fair to consider this observation as being entirely applicable to man.

Neither is the effect of chloroform limited to the mother, according to the observations of Evarts Graham.[3] He found that administration of chloroform to pregnant animals near term, even for so short a time as ten or fifteen minutes, might result in intra-uterine death of the fetuses, in which fatty changes are found in the liver. When, after very light anesthesia of the mother, the young have been born in apparent good health, they often succumb during the first week with hemorrhagic lesions or icterus and their usual accompaniments. In other words, the "delayed chloroform poisoning" which follows anesthesia in adults may also manifest itself in the new-born infant which has absorbed chloroform from its mother through the placenta. Furthermore, the anatomic effects observed in new-born experimental animals are quite the same as those characteristic of such recognized hemorrhagic diseases of the new-born as icterus neonatorum, melena neonatorum, Buhl's disease, Winckel's disease, etc. Graham points out that these various symptom-complexes may all be produced by one or by many toxic agents, chloroform being one of these, and that it is quite possible that many instances of these fatal diseases of infancy are the result of chloroform given to the mother, especially during protracted, difficult labors, when the amount of anesthetic consumed is large, and there is a considerable period during which it might be absorbed by the fetus before delivery. Unquestionably there is here pointed out by these two investigators a source of danger in the use of chloroform during childbirth which has not been generally appreciated, and this information should lead to a careful discrimination in the use of this dangerous drug in obstetrics, a use which hitherto has been promiscuous and lavish under an apparently erroneous confidence in a supposed immunity of the mother and a disregard of possible remote effects on the child.

1. Lyons: Northwest Med., 1906, iv, 401.
2. Whipple: Jour. Exper. Med., 1912, xv, 246.
3. Graham, Evarts: Jour. Exper. Med., 1912, xv, 307.

THE OATMEAL DIET AND THE PERMEABILITY OF THE KIDNEY

In a discussion of the oatmeal cure in diabetes which appeared in these columns some time ago[1] it was pointed out that the favorable results which have undoubtedly at times been observed clinically with this method of treatment still lack an adequate explanation. Some investigators completely deny the specific efficiency of the oatmeal treatment, attributing any reputed beneficial effects to the absence of animal protein in the diet; others assume that the favorable influence is associated with the oat starch, and maintain that equally favorable results attend the employment of other kinds of starch. In addition to all of these points of view remains the controverted assumption that the oat products contain some specific compound to which must be ascribed the ameliorating influence on the glycosuria.

Von Noorden, to whom we owe the oatmeal treatment of diabetes, has pointed out that a possible explanation of the diminished glycosuria may be found in connection with the altered permeability of the kidney. To test this hypothesis experiments have lately been conducted in his clinic at Vienna by Dr. Barrenscheen.[2] His method consisted in following the rate and extent of elimination in the urine of milk-sugar introduced intravenously in non-diabetic human subjects both before and after a diet containing a liberal addition of oatmeal as it is usually prescribed to patients. The observations show that on the oatmeal days there was in every case a noticeable delay in the excretion of the milk-sugar. The diminished volume of urine and the rise in content of sugar in the blood which accompany these effects are attributed to an influence on the kidney vessels whereby a diminished permeability manifests itself. Experiments especially directed to ascertain the seat of action

1. The Journal A. M. A., Jan. 6, 1912, p. 38.
2. Barrenscheen, H. K.: Ueber die Dichtung des Niesenfilters, Biochem. Ztschr., 1912, xxxix, 232.

V. 58
1912

here involved gave no indication of any connection of the renal tubules with the results described.

It has frequently been reported that infectious diseases are attended with diminished excretion of sugar in patients with glycosuria. It is of interest, therefore, to note that Barrenscheen found evidences of a functional damage of the kidney vessels in such diseased conditions likewise manifesting itself by a retarded elimination of sugar after these test injections. The apparent diminution in glycosuria associated with infectious diseases is, therefore, attributable to a vascular damage to the kidney, and may manifest itself even in the absence of severer kidney symptoms such as albuminuria and the presence of formed elements in the urine. The kidney filter has merely become more impermeable and sugar fails to be eliminated through it with the same ease as earlier in the progress of the diabetes. If these investigations are substantiated by further study, they will throw an important side-light on the probable action of what is just at present a popular mode of dietetic treatment.

V. 58
1912

HEALTH WORK AMONG INDIANS

The general policy of the United States government toward the American Indians has been to encourage and promote conditions of self-support among them. The effort has been to prepare the Indian to maintain himself without government aid and, when he is ready, to withdraw that aid. This policy has been worked out with notable success, and no feature of it is more interesting than the methods used to educate the Indians in matters of health and sanitation.

The report of the Commissioner of Indian Affairs[1] to the Secretary of the Interior for the fiscal year 1911 constitutes the eightieth such annual report. The Office of Indian Affairs has a medical supervisor, one hundred regular and sixty contract physicians, fifty-four nurses and eighty-eight field matrons. The number of Indians who receive medical care from this office is 310,926. Most of these are found in Oklahoma, California, Arizona, New Mexico and South Dakota. Great emphasis is put on the prevention of disease, although all possible care is given to actual sickness. A good beginning has been made by having physicians secure detailed information about the living arrangements of each individual by going from house to house and from camp to camp inquiring into sanitary conditions. This quickly awakens the Indians to the dangers of contagious diseases and the suggestions and instruction which are given help them toward an improvement in living conditions, and to do away with the insanitary surroundings to which so many are accustomed. The trained physicians are acquiring influence and prestige at the expense of the Indian medicine-men. In some cases, indeed, the medicine-man has become the ally and chief assistant of the physician.

Other educative and preventive methods are the employment of stereopticon lectures and motion pictures to illustrate in contrast the ordinary habitations of careless Indians and the pleasant healthful homes of those who have improved the opportunities offered by the government. In such lectures, a simple practical talk is given on outdoor exercise, ventilation, disposal of garbage, clean milk and water, tuberculosis, and trachoma.

One of the important objects of the sanitary survey has been the elimination of toilet- and bath-rooms from basements, as well as the removal from basements of all rooms used by students, especially playrooms. The field matrons prepare the way for and augment the work of the physicians. They have had a great influence in decreasing the former high infant mortality, and the severity of children's diseases. Vaccination is becoming common among the Indians, and small-pox, formerly one of their worst scourges, has decreased amazingly.

Tuberculosis is now the most serious disease. The lack of hereditary immunity, the overcrowded and unventilated houses and the insanitary habits of the Indians all contribute to a high mortality rate. In the Fort Lapwai Reservation, Idaho, practically every family in the population of over 1,400 has one or more tuberculous members. The Indian Office is enlarging its four tuberculosis sanatoriums; the one at Phoenix, Arizona, now accommodates sixty-five patients; the one at Laguna, New Mexico, twenty-five; at Fort Lapwai, Idaho, 120. At the sanatoriums over 90 per cent. of the patients have shown marked improvement, and 11 per cent. have entirely recovered.

Trachoma stands next in importance to tuberculosis. In some sections of the Southwest, from 65 to 95 per cent. of the Indians are affected. The trachoma specialists of the service have visited nearly every point in the southwest, treating existing cases, and instructing the local physicians in its prevention and treatment. At the trachoma hospital in Phoenix, Arizona, over eight hundred patients have been operated on and treated.

It is the prevailing opinion among those engaged in the work that there has been an encouraging improvement in health and in sanitation among the Indians as a whole.

1. Ann. Rep. Comm. Indian Affairs for fiscal year 1911.

MILK STANDARDIZATION

The commission on milk standards appointed by the New York Milk Committee about a year ago has just made its final report.[1] The document is an important one.

It is always a difficult task to obtain uniformity and effectiveness in public health legislation, partly because of the rapid shifting of opinion due to advancing knowledge, partly because of variation in local conditions and partly because of the opposition of firmly intrenched

1. Public Health Report, May 10, 1912

commercial interests. Particularly has this been so in the case of milk-supply, in regard to which current farm practice has long violated the laws of hygiene and any suggestion of change has had to grapple from the beginning with deep-seated conservatism.

Unfortunately reformer and laboratory worker have on their side by no means presented a united front, and practical administrators have sometimes been almost lost in a wilderness of bacterial "standards" and specifications. The work of the certified milk commissions has done a great deal to bring us out of this state of confusion and bewilderment, and there are signs that we are entering on a more satisfactory stage characterized by greater precision and unanimity. The report before us is a long step toward this end.

At least two points in the report are likely to attract general attention. One of them is the emphasis on the grading of milk. The advisability of some sort of classification of milk is obvious. Although a difference in the quality of every article of food has long been recognized in commerce, as in the "dirties," "checks" and "extras" of the egg trade, milk, which from a sanitary point of view is perhaps the most important of them all, has until lately remained ungraded and unclassified. Good, bad and indifferent milk has been sold at a uniform price, and few producers have had anything to gain by using care or to lose by being slovenly. The commission recommends grading milk into four classes: (A) certified milk or its equivalent; (B) inspected milk; (C) pasteurized milk; (D) milk not suitable for drinking purposes. The classes are carefully defined in the report and will, we believe, find ready acceptance. They are in part similar to gradings previously proposed and are the natural outgrowth of several years of discussion. The important fact to notice is not so much the precise delimiting of various grades as the assumption which runs apparently through all the deliberations of the commission that some sort of classification accompanied by precise and controlled labeling is indispensable.

Another point of general interest is the favor with which the commission regards the process of pasteurization. The report makes it clear that in the opinion of the commission the chief distinction in grades of milk is that between raw milk and pasteurized milk. Two sentences are significant enough to be quoted: "The commission thinks that pasteurization is necessary for all milk at all times excepting certified milk or its equivalent. The majority of the commissioners voted in favor of the pasteurization of all milk, including certified." Such an opinion is naturally accompanied by detailed specification of pasteurizing methods and a full survey of the difficulties encountered in the proper supervision of pasteurization on a large scale. The necessity of adopting standard rules for pasteurization, as indeed for all the processes of producing, handling and distributing milk, is frankly recognized. The commission believes that such rules should be just as carefully drawn and as rigorously applied as any of the excellent regulations made by the American Association of Medical Milk Commissions. The rules proposed are clear and concise, as may be seen by consulting the full report.

One other recommendation finally may be mentioned. We have maintained on several occasions (for example, in discussing the Montclair, N. J., milk situation) that a judicious publicity is of advantage to both producer and consumer. The shrewd consumer may then choose his milk-supply intelligently with all pertinent facts before him, and the producer is given a proper incentive and may reap the reward of his labor. We are gratified to observe that the commission recommends "that the reports of laboratory analyses of milk made by departments of health be regularly published."

INVESTIGATIONS OF THE TITANIC DISASTER—AMERICAN AND BRITISH

The first horror of the *Titanic* disaster has passed, and the American and British publics are now waiting to see what practical results the tragedy will bring forth. The senatorial inquiry brought out many facts damning not only to the steamship companies, but also and equally to the British Board of Trade which has full power to make such regulations as it deems necessary for the safety of British ships. Some English newspapers, whose opinions, apparently, are largely shaped by their advertisers, have seen fit to criticize adversely the American inquiry into the disaster. That this criticism is not shared by the British people generally is evident from the attitude of the more responsible and conservative newspapers on the other side. Two facts Senator Smith's committee brought out clearly and beyond question: first, that the *Titanic* was being driven at high speed through a sea known to be dangerous with ice; second, that the steamship did not have life-boat accommodation for one-half as many people as it carried.

It remains to be seen what additional facts may be brought out by the British inquiry. Thus far the trend of the investigation is not encouraging. The British public may well look with suspicion on a court of inquiry that is to be presided over by Lord Mersey. This gentleman was on the South Africa committee which inquired into the Jameson raid and there has probably never been a more scandalous wielding of the official whitewash-brush than that which occurred in the farcical investigation of the raid in South Africa. Lord Mersey has already used the technicalities of court procedure—he is a judge—effectually to prevent a witness answering a question of vital practical importance in the present inquiry.

Americans are sometimes likely to think that the "interests" in this country are able to stifle damaging investigations in a way that would not be permitted in Europe. This is not the case. Truth is choked with equal

ease on the two sides of the Atlantic. The difference is one of method. The throttling is done with a little more finesse in the Eastern hemisphere than in the Western, but it is equally effective.

The British Board of Trade, which is directly responsible for the safety of British ships, watched the building of the *Titanic* — at least, such was its duty — but raised no protest when the original plans of the vessel were changed during the building so that the life-boat accommodation was reduced nearly one-half. Such official blindness is not to be wondered at when it is known that the board's advisory committee on safety regulations at sea has, as one of its prominent members, Mr. A. M. Carlisle, who is also a consultant to the firm that was building the *Titanic*. The chairman of the same committee, Sir Norman Hill, is the head of the firm, Hill, Dickinsons & Co., which is acting as counsel for the White Star Company during the present inquiry!

The Board of Trade regulations exempt big liners from carrying life-boat accommodation sufficient for all on board provided these liners install wireless apparatus. At the same time, the board does not compel the installation of wireless apparatus on vessels under 10,000 tons. Practically these regulations mean that while the large boats with insufficient life-boat accommodation can call for help by means of wireless, the majority of small boats which might be expected to be in the vicinity would be unable to catch the call for help and thus for practical purposes the efficiency of the wireless equipment is reduced almost to zero. Of what value is a fire-alarm box just outside the house if the fire-engine station is so distant that the house would be consumed before it was possible to reach it?

The whole inquiry shows, as has been pointed out time and again, that safety on the big liners has been sacrificed at every point for luxury, for it is luxury that pays dividends. It is the first-class passengers that are catered to; this was true not only in the building of the ship but, apparently, in its sinking. "Every rich child saved, fifty-five out of seventy-eight poor children drowned." As a British magazine trenchantly remarks: "The rule of the sea as interpreted in a crack liner is, not women and children first, but *ladies* and *their* children first."

Senator Smith may lack the technical knowledge of maritime matters possessed by Lord Mersey; his committee may have asked some questions that to a seaman appear trivial or even ridiculous; but whatever else may be charged against the senatorial committee, suppression of the truth or any attempt to turn the investigation into a whitewashing affair cannot in fairness be alleged. It is to be hoped, both in the interest of common humanity and for the good name of British shipping, that the same earnest desire to get at the truth, no matter whom it may hurt, will actuate the official body at present inquiring into the *Titanic* disaster in Great Britain.

Current Comment

WORKING THE PROFESSION IN THE INTERESTS OF QUACKERY

The ramifications of quackery are many and various. The matter that follows starts from nowhere and leads nowhere; nevertheless, it is of value not only for the information given, but because it shows the menace of quackery to the public. Last November, physicians in various parts of the country received a short letter from a physician in central New York, stating that its writer was preparing a paper on locomotor ataxia and, wishing to make it exhaustive, desired "to get into personal communication with as many of these sufferers as possible." With this object in view, he asked:

> "May I not ask your assistance to the extent of sending me the names and addresses (not for publication) of any you may know in your city or county?"

Several physicians wrote to THE JOURNAL asking if there was a "nigger in the wood-pile." Inquiries made brought the information from the New York physician that "the statements made are genuine and honest and requests are legitimate." Some of the physicians who received the request, however, sent in names of hypothetical cases of locomotor ataxia. The results were interesting. Those whose names were sent in received no letter from the New York man, but did receive at intervals imitation typewritten communications consisting of testimonials relative to the wonderful cure for locomotor ataxia by a Dr. C. H. Burton of Detroit, Mich. The same individuals also received an elaborate booklet of thirty-two pages describing the cure of tabes by Burton's wonderful serum. Burton, who is a graduate of the Detroit Homeopathic Medical College, used to live at Hastings, Mich., where he was associated with that notorious fraud "Drs. Mixer," the cancer-cure fake which was put out of business both by a fraud-order issued by the Post-Office and by prosecution under the Food and Drugs Act. Since the Mixer concern has ceased to be a source of income for Burton, he seems to have turned his attention to the exploitation of an equally cruel fraud, that of selling a fake cure for locomotor ataxia. After Mixer had been denied the use of the mails, pressure was brought to bear at Washington and an investigation was made of the Post-Office Department for the apparent purpose of showing that an injustice had been done to the Mixer concern. Those who read THE JOURNAL'S account of the fraud order case against "Drs. Mixer" may remember that Congressman E. L. Hamilton of Michigan came to the defense of Mixer. Whether Hamilton was responsible for the attempt to discredit the government in the Mixer case or whether his evident sympathies for the cruelest kind of quackery have anything to do with the apparent immunity of Michigan mail-order medical fakes from government interference, we do not know. It is interesting in this connection to note that Mixer's congressional defenders were willing to accept C. H. Burton's statement to the effect that Mixer's nostrum would cure cancer in the face of opposing testimony from men such as Anders of Philadelphia, Carl Beck of New York,

Deaver of Philadelphia, Kelly of Baltimore, Mayo of Rochester, Murphy of Chicago, Osborne of New Haven, and many other equally well-known physicians and surgeons.

EARLY OBSERVATIONS OF ALLERGIC PHENOMENA

Recently we commented on the observations of the phenomenon of allergy by Jenner,[1] during his researches on cow-pox and small-pox. Mention was also made of the observations of Koch[1] concerning the hypersusceptibility of the tuberculous organism to a repeated dose of tuberculin. Von Behring noted a few years later that a second injection of a small dose of diphtheria antitoxin sometimes produced death in a guinea-pig, the amount required sometimes being not more than one one-hundredth of the minimal lethal dose. Theobald Smith also made the same observation with reference to diphtheria antitoxin. It would seem that these interesting observations concerning allergy, though their true significance and nature were not recognized at that time, were not the only observations along the same line. W. d'E. Emery[2] notes a number of examples previous to the description of the phenomena by von Pirquet and by Rosenau and Anderson. Magendie, as long ago as 1839, noticed that a rabbit that had received an injection of albumin without obvious ill effects might die from a second minimal dose some days later. Richet, in 1902, in studying the effects of the poison of certain actinians, noted definitely and described the production in animals of hypersensitiveness to certain substances. He found that a dog which had received a small dose of the poisons which he had investigated, and which might not cause any symptoms, would become so altered that a second dose, also innocuous to normal animals, would produce a series of remarkable symptoms and even death in a short time. He also ascertained that a period of about ten days was necessary for the production of this hypersensitiveness and that the condition lasted some weeks and was specific. These additional observations of what is now known as allergy or anaphylaxis again emphasize the point made in our former editorial that a study of the work of even very early observers might furnish suggestions which in the light of knowledge acquired by modern research would lead to important discoveries.

1. THE JOURNAL A. M. A., April 13, 1912, p. 1117.
2. Emery, W. d'E.: Anaphylaxis, Brit. Med. Jour., Nov. 4, 1911, p. 1178.

The First Mortality Records.—At the beginning of the seventeenth century, a time when the plague was prevalent in the city and suburbs of London, matrons and searchers were appointed in several parishes within and without the city to collect records of births and burials. In the case of burials the corpse was inspected by the searchers, and the cause of death ascertained as correctly as possible from the friends and relatives. These reports were sent to the parish clerks, entered in the books of the parish vestry halls, and the results were published every Thursday. The primary object of the reports was to ascertain the mortality from the plague and its proportion to deaths from other causes and to the birth-rate. Captain John Graunt, F. R. S., collected the records for twenty years, and drew up some tables from them on which he founded some interesting observations. These were the first records of mortality ever published, and, appearing in 1662, attracted much attention and went through five editions.—Powell in the *Practitioner*.

Medical News

CALIFORNIA

Personal.—Dr. J. Perry Lewis, wife and daughter, San Diego, have started for Europe.——Dr. G. E. Malsbary, Los Angeles, has purchased the *Southern California Practitioner* from Dr. Walter Lindley, Los Angeles.——Dr. Walter Lindley has resigned as trustee of the Whittier State School.

County Medical Society Buys Site for Building.—The Los Angeles County Medical Association Building Company has purchased a lot 132 by 150 feet at Sixth and Olive streets for $528,000. On this site, as previously stated in THE JOURNAL, the society will erect a twelve-story office building for the exclusive use of physicians.

Dinner to Dr. Ellis.—In recognition of the services of Dr. H. Bert Ellis, Los Angeles, in securing the meeting of the American Medical Association in Los Angeles last year, one hundred and ten members of the medical profession and other friends tendered Dr. Ellis a testimonial dinner at the University club, April 22. Dr. William M. Lewis was chairman of the evening and Dr. Norman Bridge officiated as toastmaster.

Medical Library Nearing Completion.—The new medical library building, opposite the Lane Hospital and Cooper Medical College, San Francisco, is nearing completion. The building covers an area of 60 by 100 feet; the book-stacks will be four stories in height, constructed of steel with glass doors and will have a capacity of 80,000 volumes, with the possibility of an increase of 30,000.

Endowment Fund of Sanatorium Increased.—The directors and advisory board of the Barlow Sanatorium, Los Angeles, gave a charity ball, April 10, of which the net receipts were $47,585.10, of which $34,125 was given toward the endowment fund. This makes the endowment fund of the institution $101,000 and will allow the increase in the capacity of the institution of ten beds, making its total capacity now forty beds. The institution is designed for the worthy poor tuberculosis patients, residents of Los Angeles, and the only charge made for any patient is a nominal fee of $5 per week.

CONNECTICUT

Health Board Organizes.—The Hartford Board of Health held its meeting for organization May 1 and elected Dr. Thomas F. Kane, president; Dr. Charles P. Botsford, superintendent; Drs. Robert S. Starr, James F. Rooney, D. J. Molumphy and D. W. Tracy, medical inspectors, and Dr. Arthur J. Wolff, bacteriologist.

New Officers.—New Haven County Medical Society, April 26: president, Dr. Louis M. Gompertz; clerk, Dr. W. E. Hartshorn, both of New Haven.——Litchfield County Medical Association, one hundred and forty-eighth annual meeting, April 23: president, Dr. R. S. Goodwin, Thomaston.——Fairfield County Medical Association, one hundred and twentieth annual session: president, Dr. James Douglas Gold; secretary, Dr. Frank W. Stevens (reelected), both of Bridgeport.——Hartford County Medical Association, one hundred and twentieth annual meeting: president, Dr. Samuel W. Irving, New Britain; secretary-treasurer, Dr. Paul P. Swett, Hartford.

FLORIDA

New Officers.—Hillsboro County Medical Society, at Tampa: president, Dr. J. B. Wallace; secretary-treasurer, Dr. W. M. Rowlett, both of Tampa.

Personal.—Dr. James Wilcox Turner, Otter Creek, is ill with typhoid in Johns Hopkins Hospital.——Dr. J. Harris Pierpont, Pensacola, has been appointed agent of the State Board of Health for Escambia County, vice Dr. Warren E. Anderson, deceased.

GEORGIA

Personal.—Dr. R. V. Harris, who has been acting assistant health officer of Savannah, has resumed his duties as city physician.——Dr. O. T. Kenyon, Dawson, who has been seriously ill, is reported to be convalescent.——The office of Dr. M. Walton, Lumpkin, was destroyed by fire, April 26.

Board Refuses License.—The Board of Medical Examiners of Georgia has refused to grant licenses to the eleven individuals constituting the first graduating class of the Southern College of Medicine and Surgery, on the ground that three of the graduates had been allowed full credit on their terms for two years, which each had spent in an osteopathic school, and that the other eight were students in a college not properly

V. 5
1912

equipped to teach medicine and surgery. The dean of the college states that he will bring mandamus proceedings to compel the board to issue the licenses.

ILLINOIS

To Repair Grave of Pioneer Physician.—A movement has been started by physicians of Madison County to recover and replace a headstone placed at the grave of Dr. Ruben Mack, the first physician to locate in Madison County, who died in 1832.

Diphtheria at Dunning.—At a hearing before the County Civil Service Commission, May 9, the superintendent of the Cook County Institutions, Dunning, stated that twenty patients of the institution were isolated suffering from diphtheria.

Hospital Addition.—An addition to St. Margaret's Hospital, Spring Valley, is planned, which will include a chapel, laundry and dormitory for nurses. Since the hospital was built three years ago, its capacity has been doubled and it is overcrowded most of the time.

Personal.—Dr. W. O. Bradley was elected mayor of Galesburg, May 7.——Dr. G. F. Johnson, East Moline, has disposed of his practice and will retire for a year. Dr. E. Don Taylor, Moline, will succeed him.——Dr. Stephen R. Pietrowicz announces that he will not accept the superintendency of the Dunning Institutions after July 1, when the state takes over the control of the institutions from Cook County.

Medical School to be Independent.—The College of Physicians and Surgeons announces that the association which has existed for fifteen years between it and the University of Illinois will be dissolved at the close of the current session. This action has come about on the initiative of the college through its refusal to renew the lease of the school to the university. The college came to the conclusion that unless the university could provide for its medical school as it does for its other departments it would be better that the college pursue its course independently along the lines of the policy already established.

Chicago

Personal.—Dr. and Mrs. Frank W. Lynch have returned from Europe.——Dr. E. P. Murdock was severely injured in a collision between his buggy and an electric car, May 7.——Dr. George Mikkelsen sailed for Europe, May 7.

Hospital for Near-Insane.—At a meeting held May 7, it was decided to establish a new private hospital near Chicago, for the exclusive treatment of border-line insanity cases, and a cottage on a farm near the city for the use of convalescent insane patients. The hospital and cottage are to be erected and maintained by the Illinois Society of Mental Hygiene.

IOWA

New Officers.—Washington County Medical Society, in Washington, April 24: president, Dr. S. W. Huston, Crawfordsville; secretary-treasurer, Dr. C. A. Boice, Washington.

Medical Reunion and Clinic.—The Alumni of Drake University Medical College met in Des Moines, April 16, for a two-day reunion and clinic, which had been arranged by the alumni association of the state. About one hundred were present at the reunion. At the annual banquet Dr. Charles F. Smith, Des Moines, acted as toastmaster.

Medical Women Hold Meeting.—The Iowa Woman's Medical Society held its fifteenth annual meeting in Burlington, May 7, and elected Dr. Georgia Stewart, Des Moines, president; Drs. Florence B. Sherbon, Colfax, and Julia M. Donahue, Burlington, vice-presidents; Dr. Clara B. Whitmore, Cedar Rapids, secretary, and Dr. Grace Yerger, Waterloo, treasurer.

Society Opens Club Rooms.—The new club rooms of the Waterloo Medical Society, located on the top floor of the Y. M. C. A. Building, were opened April 12, for the regular meeting of the society. The new quarters consist of three rooms, one of which is reserved for the clinic and demonstrating room, a second for recreation, and a third for a library and reading room.

State Medical Society Meeting.—At the sixty-first annual meeting of the Iowa State Medical Society held in Burlington, May 8-10, the following officers were elected: president, Dr. Vernon L. Treynor, Council Bluffs; vice-presidents, Drs. C. P. Frantz, Burlington, and E. E. Dorr, Des Moines; secretary, Dr. J. W. Osborn, Des Moines, and treasurer, Dr. William B. Small, Waterloo (reelected).

Personal.—Dr. David E. Beardsley has been appointed city physician of Cedar Rapids.——Dr. Jessie B. Hudson, assistant state bacteriologist in the University of Iowa, has resigned to become pathologist in the Woman's Hospital, Philadelphia. She has been succeeded by Dr. R. E. Echternacht.——Dr. Esther A. Ryerson, for more than two years a member of the staff of the Mount Pleasant State Hospital, has resigned and expects to settle in the West.

KANSAS

Tuberculosis Camp.—A tuberculosis camp to accommodate twelve patients is to be established on the grounds of the State Hospital, Rosedale. The camp will be composed of six two-room portable houses and the state will furnish the medical treatment, provided the county from which the patient is sent will pay the cost of subsistence.

Personal.—Dr. W. F. Schoor has been appointed city physician of Hutchinson, vice Dr. J. W. Young.——Dr. W. E. Regier, Harper, has assumed charge of the Updegraff Hospital, Anthony.——Dr. J. C. Montgomery, Manhattan, has been reappointed health officer of Riley County.——Dr. J. B. Gardner, Pittsburg, has been appointed physician of Crawford County, vice Dr. C. A. Fisher, resigned.

State Society Meeting.—At the forty-sixth annual meeting of the Kansas Medical Society held in Hutchinson, May 2 and 3, the following officers were elected: president, Dr. George M. Gray, Kansas City; vice-presidents, Drs. Clemens Klippel, Hutchinson, H. G. Welsh, Hutchinson, and G. A. Blasdel, Garnett; treasurer, Dr. L. H. Munn, Topeka; delegate to the American Medical Association, Dr. John T. Axtell, Newton; and councilors, Drs. C. W. Reynolds, Holton, first district (reelected); C. C. Goddard, Leavenworth, second district; W. F. Sawhill, Concordia, seventh district; O. D. Walker, Salina, eighth district (reelected), and C. S. Kenney, Norton, ninth district (reelected). Resolutions were adopted endorsing the Owen bill, and a law requiring compulsory registration with the local boards of health of all cases of venereal disease in both public and private practice.

MARYLAND

Personal.—Dr. Stuart Cassard, Towson, is improving after an operation.——Dr. Charles L. Mattfeldt has resigned as president of the Catonsville Country Club.——Dr. George Y. Massenburg, Towson, has been appointed as one of the resident surgeons of the Santo Tomas Hospital, Panama, and sailed for the Canal Zone, May 15.——Dr. T. Watts Byerly, Laurel, has been reelected physician to the Maryland House of Correction.——Dr. Philip Briscoe, Mutual, has been reappointed a member of the board of State Aid and Charities.

Baltimore

Personal.—Dr. Howard E. Harmon is recovering from an operation for appendicitis, performed April 23.——Dr. Roy D. McClure is ill with typhoid fever in Johns Hopkins Hospital.——Drs. Henry M. Hurd and Curtis F. Burnam have been appointed members of the Lunacy Commission.——Dr. Lillian Welsh has been appointed chairman of the committee on health of the State Federation of Women's Clubs.——Dr. Frank S. Lynn of University Hospital, has been obliged to give up practice on account of his health and will spend some time on a farm in Ohio.——Drs. Hugh Hampton Young and John M. T. Finney and their families leave for Europe in June.——Dr. Louis Virgil Hamman, in charge of the Phipps Dispensary of the John Hopkins Hospital, is ill in that institution with typhoid.

MASSACHUSETTS

Harvard Alumni Dinner.—The triennial dinner of the Harvard Medical Alumni Association will be held at the Hotel Somerset, Boston, May 22. Dr. Robert M. Green, 78 Marlborough Street, Boston, is secretary.

The Antituberculosis Campaign.—Over 26,000 single carnations were sold in Salem by four hundred volunteer workers in the annual carnation festival held in aid of the Salem summer camp for tuberculosis patients. Over $3,000 was realized.

Class Day Exercises.—The class day exercises at Harvard Medical School will be held May 25. The new buildings will be open from 3 to 4; at 4 o'clock short addresses will be made by President Lowell and Dean-Elect Bradford. The Poison-Ivy oration will be given by the class speaker, and from 5 to 7 there will be a spread, with music and dancing.

Personal.—Dr. Robert Chambers, Jr., Woods Hole, has accepted an appointment as assistant professor of histology and embryology in the University of Cincinnati.——The director of public health and charities at Lawrence has appointed the following staff for the Lawrence Municipal Hospital:

Drs. John B. Bain, Joseph A. Dorgan, Leon G. Beeley, P. L. McKallagat, Timothy J. Daly, Charles J. Burgess, John A. Magee, Robert W. Farster, Paul R. Oeser, R. M. Birmingham, Canstant Calitri and John H. Bannon.——The following medical examiners have been appointed: Dr. George L. West, Newton Center, Middlesex County; Dr. Charles W. Bartlett, Marshfield, associate for Plymouth County; Dr. Richard Hinchey, Waltham, associate for Middlesex County, and Dr. Charles Sturtevant, Hyde Park, associate for Suffolk County.——Dr. J. W. Cahill, Worcester, sailed for Europe, April 30.

MINNESOTA

New Officers.—Stearns-Benton County Medical Society, at St. Cloud, April 18: president, Dr. J. H. Beaty; secretary-treasurer, Dr. J. C. Boehm, both of St. Cloud.

Antituberculosis Society Asks Large Appropriation.—The State Antituberculosis Society, at its meeting in Minneapolis, April 30, outlined a legislative publicity campaign. A bill is to be presented to the legislature asking for an appropriation of $400,000, to be used in founding at least one new institution for the care of consumptives in each county in the state.

Memorial Hospital Planned.—As a memorial to the late superintendent of Maternity Hospital, Minneapolis, the directors plan to erect a hospital, to be known as the Martha G. Ripley Maternity, on a five-acre tract owned by the institution. The cost of construction is estimated at $100,000 and an endowment of $50,000 will be sought by subscription. The plans call for two cottages, each to cost $50,000, one to be used as a hospital and the other as a home for girls.

Rochester Scarlet Fever Epidemic Under Control.—Word from Rochester reports the scarlet fever epidemic, to which reference was made last week, as being under control. The physicians of St. Mary's Hospital, with the support of the physicians of the city, fifty in all, under the direction of the State Board of Health, are making every effort to stamp out the disease. Ten physicians volunteered with visiting nurses for school inspection. There are now 89 cases reported under quarantine and no mortality. The mildness of type, many patients having had no physician, is declared to be the cause of the great spread of the disease.

NEBRASKA

Start Work on Tuberculosis Hospital.—Work on the new building of the State Tuberculosis Hospital, Kearney, has commenced.

New Officers.—Franklin County Medical Society, at Burlington: president, Dr. William H. Byerly; secretary-treasurer, Dr. H. C. Smith, both of Franklin.

Creighton Alumni Hold Meeting.—At the annual meeting of the Creighton Medical Alumni Association held in Omaha, April 25, Dr. M. J. Ford was elected president and Dr. Rudolph Rix, secretary-treasurer. Dr. Gustav Hahn was toastmaster at the banquet.

Personal.—Dr. Newell Jones, Central City, has started for Europe.——Dr. J. G. Muir, Milford, has been appointed physician of Seward County, vice Dr. J. T. Stanard, Tamora.——Dr. J. M. Gahringer, Grand Island, who was operated on recently in Rochester, Minn., is reported to be convalescing slowly.

State Medical Association Meeting.—At the annual meeting of the Nebraska State Medical Association held in Lincoln, May 7-9, the following officers were elected: president, Dr. I. N. Pickett, Odell; vice presidents, Drs. W. B. Kern, Ingleside, and D. T. Quigley, North Platte; secretary, Dr. James M. Aikin, Omaha; treasurer, Dr. A. S. von Mansfelde, Ashland (reelected), and librarian, Dr. A. C. Stokes, Omaha. Resolutions endorsing the Owen bill were unanimously adopted. The by-laws were amended and a committee constituting a bureau for medical education by public addresses in harmony with the plans of the American Medical Association was appointed.

NEW YORK

New York City

New Site for Hospital.—The New York Ophthalmic and Aural Institute has purchased for a building a plot of ground on the corner of Fifty-Seventh Street and Tenth Avenue.

Personal.—Dr. Artistine P. Munn is convalescent after an operation for appendicitis in Johns Hopkins Hospital, Baltimore.——Dr. Joseph E. Donnelly has been appointed boarding officer at the port of New York.——Dr. A. J. Rongy has been appointed attending gynecologist to the Lebanon Hospital.

Cartwright Lectures.—Professor Ludwig Pick, pathologist to Professor Landau's Clinic, Berlin, and one of the best-known morphologists of Germany, has been secured to deliver the series of Cartwright lectures of the Alumni Association of the College of Physicians and Surgeons, New York City, in November.

NORTH CAROLINA

State Society Meeting.—Hendersonville is to have a busy medical week in June. It begins on June 12 with a four-days' session with the State Board of Medical Examiners. On June 17 the second annual session of the North Carolina State Health Officers' Association will be held, and on June 18 the Medical Society of the State of North Carolina will convene for a three-day meeting.

New Officers.—Sixth District Medical Association, at Durham, April 26: president, Dr. F. R. Harris, Henderson; secretary, Dr. C. A. Woodard, Durham.——Ninth District Medical Association, at Salisbury, May 1: president, Dr. Isaac M. Taylor, Morgantown; secretary-treasurer, Dr. C. B. McNairy, Lenoir.——Second District Medical Society, at Williamston: president, Dr. W. E. Warren, Williamston; secretary-treasurer, Dr. K. P. Bonner, Morehead City.

Medical Building Dedicated.—On May 8, the new medical building of the University of North Carolina, Chapel Hill, was dedicated. The building is known as "Caldwell Hall," in honor of the former president of the university. A large portion of the basement is to be devoted to the care of the animals used for experimental work in the laboratories. Lecture rooms and laboratories are located on the first and second floors and the dissecting room is modern in every respect. In the center of the building is a library which contains a large number of valuable books, which have been donated, and carefully selected scientific journals.

Personal.—Dr. T. F. Reynolds, Canton, was operated on for appendicitis at the Biltmore Hospital, April 27.——Dr. W. J. Lumsden, Elizabeth City, is reported to be slowly recovering from the effects of injuries sustained early in January by a fall on the ice.——Dr. J. E. Smoot, Concord, underwent operation at the Whitehead-Stokes Sanatorium, Salisbury, April 9, for the removal of adhesions following an operation for appendicitis two years ago.——The governor has appointed Drs. W. S. Rankin, R. H. Lewis and John A. Farrel, Raleigh; Dr. L. B. McBrayer, Asheville, and Dr. R. S. Young, Concord, to take up the matter of securing an exhibit from North Carolina for the International Congress on Hygiene and Demography.

OHIO

New Officers.—Wyandot County Medical Society, at Upper Sandusky, May 3: president, Dr. I. N. Bowan; secretary-treasurer, Dr. Frederick Kenan, both reelected.

Money for District Nurses.—The collection for the benefit of the District Nurse Work in Toledo, May 1, has already amounted to nearly $12,000, with several of the workers yet to report.

Antituberculosis Workers Elect.—At the annual meeting of the Ohio Society for the Prevention of Tuberculosis held in Dayton, May 6, the following officers were elected: president, Dr. Henry Baldwin, Springfield; vice-presidents, Dr. Samuel Iglauer, Cincinnati, and Dr. Frank Warner, Columbus; directors, Drs. Clyde E. Ford, Cleveland; Esther Tyrrell, Canton, and the vice-presidents.

Personal.—Dr. A. Schwagmeyer, Cincinnati, sailed for Europe, May 8.——Dr. W. H. Buechner, Youngstown, has been chosen as the representative of the medical staff of the City Hospital on the building committee for the proposed additions to the hospital.——Dr. William C. Freed, Cleveland, is reported to be critically ill at the home of his mother.——Dr. Will J. Prince, Piqua, is reported to be convalescent after an attack of appendicitis.

Taboo Contract Practice.—At the meeting of the Clark County Medical Society, April 28, rigid rules were adopted providing that any member found guilty of unprofessional conduct or of any criminal offense shall be expelled; that any member engaged in contract practice for any lodge, fraternal organization, factory or company, shall be guilty of unprofessional conduct; that any member found guilty of dividing fees shall be liable to expulsion.

State Association Meeting.—At the annual meeting of the Ohio State Medical Association held in Dayton, May 7-9, the following officers were elected: president, Dr. J. C. M. Floyd, Steubenville; vice-presidents, Drs. H. Fischer, Lebanon; Henry

R. Brown, Chillicothe; J. S. Rardin, Portsmouth, and J. B. May, New Holland; secretary, Dr. J. H. J. Upham, Columbus; treasurer, Dr. Clarence D. Selby, Toledo; councilors, Drs. Charles N. Smith, Toledo, and John E. Sylvester, Wellston; delegates to the American Medical Association, Drs. C. L. Bonifield, Cincinnati; A. Rhu, Marion, and H. C. Haning, Dayton, and member of the National Legislative Council, Dr. B. R. McClellan, Xenia. Youngstown was chosen as the next place of meeting. Resolutions were adopted condemnatory of the conduct of the secretary of agriculture and deploring the conditions which led to the resignation of Dr. Harvey W. Wiley. A further report of the meeting is commenced on page 1534, this issue.

PENNSYLVANIA

Sanatorium Report.—The third annual meeting of the Philadelphia Jewish Sanatorium for Consumptives was held May 5 at Eagleville. The annual report showed an income of $33,675.94, of which $7,500 was from the state. The institution will receive an appropriation of $20,000 for the next two years. An average of fifty-nine patients a day were cared for last year, sixteen of these being children. It cost $23,684.94 to run the institution during the year, an average of $1.39 a day per patient.

Philadelphia

For Endowment Fund of College.—Under the auspices of the Philadelphia Alumnæ of the Woman's Medical College of Pennsylvania, "In Fairyland," a song cycle, followed by "Trial by Jury," an operetta by Gilbert and Sullivan, will be given at the South Broad Street Theater, May 25, for the benefit of the endowment fund of the college.

Conference Before Baby-Saving Show.—A pre-baby-saving conference was held in the mayor's reception room at City Hall, May 6, at which addresses were made by Mayor Blankenburg, Dr. Joseph S. Neff, Director of Public Health and Charities, Dr. Samuel M. Hamill, Mrs. Martin C. Grice, president of the Home and School League, and Mrs. R. Tait McKenzie. The purpose of the conference was to awaken responsibility for infant mortality.

Personal.—Dr. Matthew Woods has returned from Europe. ——Dr. S. Mason McCollin was thrown from his carriage in a runaway accident, May 3, and received serious injuries which necessitated his being removed to the Medico-Chirurgical Hospital.——Drs. Henry S. Wieder, Clarence W. Schaeffer, J. Paul Austin, William T. Rees, Joseph Fleitas and Morris Cornfeld have been appointed assistant medical inspectors under the Department of Health and Charities.

Maternity Hospital Meeting.—The thirty-eighth annual meeting of the Jewish Maternity Hospital Association was held May 6 and an appeal was made to the Jewish community to provide funds for the erection of a larger building. The treasurer's report showed that the association had received $11,500 from the Federation of Jewish Charities, of which $1,500 was for the Seaside Home at Ventnor, N. J. The Maternity Hospital disbursements for the year were $9,959.19.

Hospital Meeting.—The one hundred and sixty-first annual meeting of the Pennsylvania Hospital was held May 6. The annual report of the Board of Managers showed that $171,082.64 had been expended during the year for maintenance, which was $44,162.04 more than the revenue for the year derived from all sources. During the year the hospital received additional bequests amounting to $138,989.18, and individual contributions amounting to $39,115. The institution cared for 4,803 patients. The out-patient department treated 29,261 persons, who made 62,051 visits to the hospital, making a total of 121,004 patients treated during the year. Through the influence of Dr. Morris J. Lewis, a donation of $5,000 was made to install an *x*-ray department, with also $2,000 contributed from the same source for maintenance during the first year of operation. Dr. David R. Bowen has been placed in charge of this department.

Dr. Musser's Bequests.—The codicils of the will of the late Dr. John Herr Musser provide that in the event of the estate exceeding $225,000 there shall be created a trust fund for an annuity for his secretary, with remainder to be given to the College of Physicians in memory of the testator's father, Dr. Benjamin Musser, "for the endowment of a lecture or a series of lectures at the discretion of the council, to be given once in every three years on subjects particularly helpful to country practitioners." Another bequest of $15,000 to the University of Pennsylvania is based on the value of the estate reaching $240,000, when such amount is to be paid to the trustees for the endowment of a fellowship in the John Herr Musser Department of Research Medicine to be known as the Robert M. Girvin Fellowship as a tribute to the late Dr. Girvin, who, the testator says in his will, "was a wise, faithful and humane practitioner and a loyal friend."

VIRGINIA

Must Register Births and Deaths.—On June 1 the new vital statistics law becomes effective, after which all births and deaths in Virginia will become a matter of official record.

Physicians Win License Fight.—The common council of Staunton, which had proposed to make a levy of $20 on each physician of the city as a license tax, after the work that is being done by physicians had been explained to it, decided to withdraw the proposed tax.

State Board Election.—At a meeting of the State Board of Health, held in Richmond, April 30, Dr. William M. Smith, Alexandria, was elected president, vice Dr. Rawley M. Martin, Lynchburg, deceased; Dr. S. W. Hobson, Newport News, vice-president, and Dr. J. B. Fisher, Midlothian, secretary.

Hygiene Congress.—The Virginia Committee for the International Congress on Hygiene and Demography, of which Dr. Ennion G. Williams is chairman and Dr. D. S. Freeman, secretary, is asking the cooperation of the cities of Virginia in the securing of exhibits to show the progress of health work in the state during the last few years.

Election of Professors Pending.—At the annual meeting of the Board of Visitors of the Medical College of Virginia, to be held May 28, there will be elected a professor of diseases of the eye and ear and a professor of obstetrics and diseases of the puerperal state, to fill vacancies caused by the deaths of Drs. John P. Davidson and Daniel J. Coleman, respectively.

GENERAL

Medical Editors at Atlantic City.—The American Medical Editors' Association will hold its annual meeting at the Marlborough-Blenheim Hotel, Atlantic City, June 1 and 3.

Pediatrists to Meet.—The twenty-fourth annual meeting of the American Pediatric Society will be held at The Homestead, Hot Springs, Va., May 29-31, under the presidency of Dr. Walter Lester Carr, New York City.

Medical Psychologists at Atlantic City.—The sixty-eighth annual meeting of the American Medico-Psychological Association will be held in Atlantic City, May 28-31, at the Marlborough-Blenheim Hotel, under the presidency of Dr. Hubert Work, Pueblo, Colo.

Warning Concerning Book Agent.—One Gustav Gebauer, formerly a reputable book seller, is said to be collecting money for books ordered by physicians in Georgia and North and South Carolina. He pretends to represent Appleton, Rebman, McMillan, Wood and Leonard.

Young Woman Obtaining Money.—THE JOURNAL is informed that a young woman, who claims to be but is not the daughter of Dr. Charles J. Cummings, Williamsport, Pa., has been obtaining money from physicians of Baltimore, on the plea that she is stranded and wants money to return home.

Society for Alcohol Addictions at Atlantic City.—The American Society for the Study of Alcohol and Other Narcotics will hold its forty-second annual meeting at the Marlborough-Blenheim Hotel, Atlantic City, June 5, at 10 a. m. The secretary, Dr. T. D. Crothers, Hartford, Conn., will furnish further particulars.

Association of Medical Milk Commissions Meets.—The sixth annual meeting of the American Association of Medical Milk Commissions was held in Louisville, April 30, under the presidency of Dr. Henry Enos Tuley, Louisville, who in his address stated that "Unpaid, misunderstood, accused of graft, and criticised for things done and undone, the missionaries of the gospel of clean milk, the members of the American Association of Medical Milk Commissions, have continued their work, and to-day the demand for certified milk is far greater than was ever dreamed of by Dr. Henry Coit, when he first awakened to the idea of a milk commission." There were twenty-seven out of sixty-six commissions represented by delegates, including members from California on the west, New York and New Jersey on the east, Canada and Minnesota on the north and Alabama on the south. Perhaps the most important work accomplished was the adoption of the final standards and working methods for all commissions. These standards are ideals to which all commissions must work to bring certified milk to what it really should be. They will be printed as a special bulletin by the U. S. Public Health and Marine-Hospital Service as the final report of the committee of which Assistant Surgeon General John W. Kerr was chairman.

This committee prepared and circulated a questionnaire to all commissions and as a result of the reports sent in the standards and working methods were formulated. California has enough commissions in operation to form a state association of medical milk commissions. The revision committee made a voluminous report dealing with the milk question from all viewpoints and stating that through constant municipal supervision, with certified milk as a model, market milk would be brought to a higher standard. The following officers were elected: president, Dr. Ogden M. Edwards, Jr., Pittsburgh, Pa.; secretary, Dr. Otto P. Geier, Cincinnati; treasurer, Dr. Samuel M. Hamill, Philadelphia; councilors, Drs. Ogden M. Edwards, Jr., Pittsburgh; John W. Kerr, U. S. P. H. and M.-H. Service, J. J. Thomas, Henry Enos Tuley, Louisville, and Samuel M. Hamill, Philadelphia (reelected), and Drs. John R. Williams, Rochester, N. Y., and T. C. McCleave, Berkeley, Cal.

PARIS LETTER

(From Our Regular Correspondent)

Paris, May 3, 1912.

Chronic Enteritis and Tuberculosis

Dr. Loeper, *agrégé* professor of the Faculté de médecine de Paris and Dr. Esmonet have addressed to the Académie de médecine a communication pointing out that chronic enteritis is a frequent complication of tuberculosis because the elimination of minerals from the system is accomplished chiefly through the intestinal mucosa. Still more readily does the patient affected with chronic enteritis become tuberculous, if he has to subsist on a poor diet which is not only insufficient to supply the albuminous, mineral and fatty losses of the organism but even to maintain normal nutritive equilibrium. To prevent tuberculosis in patients with enteritis, it is necessary to introduce into the organism a quantity of food and albuminous matter considerably larger than is commonly prescribed for them and not to attempt to obtain a cessation of the pain provoked by intestinal fermentation at the price of undernutrition, which is particularly dangerous under the circumstances.

The Red Cross Stamp

The Société française de secours aux blessés militaires has decided to follow the example of several foreign branches of the Red Cross which have had great success in the use of the stamp bearing its emblem and intended to be placed on letters, packages, etc. The stamp will be sold for 5 centimes (1 cent) and the profits will be devoted to the Red Cross.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, April 27, 1912.

Personal

Professor Unverricht of Magdeburg died April 1, at the age of 58. He joined the faculty of Breslau in 1883, having been a pupil of the renowned internist, Professor Biermer, and was appointed director of the medical policlinic of Jena in 1886 and was made regular professor and director of the medical clinic at Dorpat in 1888. As a result of the Russianizing of the University of Dorpat, in 1892, in the course of which almost the entire German teaching force, the flower of the old university, fell victims, he left Dorpat and accepted the directorship of the municipal hospital of Magdeburg. This position he resigned about a year ago on account of sickness. His clinical work related chiefly to diseases of the lung, especially pneumothorax, and experimental and clinical research on nervous diseases, especially epilepsy.

The neurologist, Professor Seeligmüller of Halle, died about the middle of April at the age of 75.

Institute Named in Honor of Robert Koch

The official *Reichsanzeiger* publishes the following edict from the Kaiser, dated March 29: "On March 24, 1912, thirty years had elapsed since the deceased Privy Councilor, Prof. Dr. Robert Koch, announced in the Berlin physiological society his discovery of the tubercle bacillus. With this discovery Koch initiated the battle against the severest scourge of the human race, and it has since then been carried on with unexampled success and has rendered to suffering humanity undying service. On this occasion I wish to honor the memory of the great scientist for all time by adding the name of Robert Koch to the title of the royal institute for infectious diseases in Berlin which was erected for Robert Koch and which was for twenty years his place of labor."

Eleventh Annual Meeting of the German Orthopedic Society

The late annual session of the orthopedic society, held as usual in Berlin preceding the surgical congress, presented a number of advances worth reporting. Stoffel of Mannheim described the technic of his operation for spastic paralysis. This consists in partial resection of the motor portion of the peripheral nerves. During the operation the individual nerve paths are identified by the galvanic current. Werndorff of Vienna read a paper on osteoplasty in case of false joints. The majority of these false joints occurring in the leg heal spontaneously, even after years, by conservative motion therapy. Operation is indicated in case of marked deviation laterally and longitudinally of the fragments and consists when necessary in the removal of the bones forming the false joint up to the epiphyses and their replacement by a piece taken from the healthy tibia of the other side; the implanted piece gradually assumes the form of the normal bone. In one case he successfully implanted a peg of magnesium covered with periosteum.

Ludloff of Breslau said that after a bloodless reduction of recurrent dislocation of the hip, he has often succeeded in securing the reposition by an anterior incision. The reduction is often hindered by the shortened psoas iliacus muscle which causes outward rotation and draws the head forward. To avoid this he advises the resection of this muscle at the lesser trochanter.

Lange of Munich described the orthopedic treatment of spinal infantile paralysis. In the acute stage rest is advisable for the spine which is usually tender. During the stage of paralysis care should be taken to favor as far as possible the nutrition and regeneration of the paralyzed muscles by careful use of massage and electricity, and to prevent the recurrence of contractures by simple apparatus (rubber bands, insoles, etc.). The paretic muscles should be kept active. If after a year spontaneous regeneration seems out of the question and deformities already exist, reduction should be effected and the results secured by tendon transplantation. He prefers periosteal tendon transplantation and if necessary the insertion of strands of silk. Neuroplasty would be the ideal procedure if it were neither too early nor too late. Arthrodesis he has limited to an extraordinary degree. This operation is so serious that he undertakes it only with the full understanding of the patient and not before the age of twenty.

According to Vulpius of Heidelberg, the surgeon should not undertake tendon transplantation earlier than one year after the onset of the infantile paralysis. There is no time limit later. When deformity exists he supplements bloodless or bloody reduction by tendon transplantation or at least shortening the overstretched tendons. In total paralysis he employs arthrodesis which he prefers in paralysis of the shoulder to a plastic operation on the pectoral muscles as a rule. In case of the wrist, he usually strengthens the tendons. For the knee, tendon transplanting only is to be considered, while arthrodesis of the ankle often seems justified. He transplants tendons into tendons and endeavors to shorten the fixation period by early exercise. In regard to arthrodesis Lorenz of Vienna said that the age of the patient, the importance of the joint and the individuality of the operator should have weight in the decision for the artificial ankylosis of a joint. Ankylosis should never be undertaken before the age of twenty. The hips, knees and elbows are more useful to the paralyzed individual in the movable than in the fixed condition, even if the patients are never able to walk. Shoulder and wrist ankylosis may yield very good functional results. The foot should be fixed with artificial ligaments and the attachment of the tendons.

Förster of Breslau spoke on the treatment of spastic paralysis by resection of the posterior nerve roots. He recommends in cases of severe paralysis to cut more than four roots, but in case of operations on the cervical segment always to leave a fasciculus. In the cauda equina the distinction between the motor and sensory tracts is difficult and often can be made only by the electric current. Among over 100 patients that have been operated on by his method, death occurred in thirteen cases altogether. The person of the operator is in his opinion not without influence on the death rate. Küttner of Breslau had two deaths in twenty-seven operations; v. Eiselsberg of Vienna had no death among fifteen cases. Individuals with frequent epileptic attacks as well as those affected with multiple sclerosis are unsuitable for the operation as is shown by the experiences in two cases that terminated fatally. In athetosis the weakening of the motor nerves has sometimes proved useful, either peripherally (according to Stoffel) or centrally at the cauda equina. Förster emphasized the importance of a careful after-treatment.

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Marriages

EDGAR EARL GELDER, M.D., to Mrs. Gretchen Kastner Robinson, both of Peoria, Ill., at Chicago, May 16.

WILLIAM CULBERT LYON, M.D., Baltimore, to Miss Bella Eleanor Flaccus of Ben Avon, Pa., April 12.

ANTHONY G. FIDANZA, M.D., Providence, to Miss Anna Eleanor Rice of Olneyville, R. I., April 23.

ARTHUR MULLIN WRIGHT, M.D., to Miss Alice B. Stanchfield, both of New York City, April 27.

GEORGE H. PUTNEY, M.D., to Miss Hazel Maurine Rathbone, both of Ronan, Mont., April 30.

LEO ROBERT ROTH, M.D., Chicago, to Miss Jessie Maria Cloke of Ashkum, Ill., May 1.

EDWARD ISADORE STEINBERG, M.D., to Miss Freda Spatz, both of Pittsburgh, May 5.

EDITH EARLE EATER, M.D., and Frank H. Keisker, both of Philadelphia, April 27.

ISRAEL BRAM, M.D., to Miss Sadie J. Weisgold, both of Philadelphia, May 5.

JOHN O. GAY, M.D., to Miss Ella Heiser, both of Spokane, Wash., recently.

Deaths

Hunt Franklin Thomas, M.D. University of Michigan, Ann Arbor, 1868; of Allegan, Mich.; a veteran of the Civil War; a member of the legislature in 1873 and 1875; a member of Congress from the Fourth District of Michigan from 1892 to 1896; chief surgeon of the Michigan Soldiers' Home in 1907 to 1908, and thereafter a member of the State Pardon Board, from which he retired in 1910; president of the village of Allegan for two years; died at his home, April 17, from cerebral hemorrhage, aged 68.

William Walter Root, M.D. University of Michigan, Ann Arbor, 1862; Bellevue Hospital Medical College, 1866; surgeon of the Seventy-Fifth New York Volunteer Infantry during the Civil War; medical director of the Department of Michigan, G. A. R.; at one time a representative from Ingham County, Michigan, in the legislature; one of the county superintendents of the poor; for several terms mayor of Mason; died at his home in that place, April 22, aged 74.

George Wragg Lamar, M.D. Medical College of Georgia, Augusta, 1888; formerly first vice-president of the Florida Medical Association; first lieutenant and assistant surgeon, Florida state troops; a member of the Seaboard Air Line Surgeons Association, and surgeon of that road, and the Georgia, Florida and Alabama Railroad at Quincy; died at his home, April 15, aged 46.

Julius Wenz, M.D. University of Buffalo, N. Y., 1865; a surgeon of volunteers during the Civil War and thereafter for several years acting assistant surgeon, U. S. Army; for several years visiting physician to the Sisters' Hospital, Buffalo; first president, and thrice reelected president of the village of Lancaster; died at his home recently, and was buried April 28, aged 68.

Herbert Cooper Rogers, M.D. Bellevue Hospital Medical College, 1878; a member of the American Medical Association; instructor in surgery in the Long Island College Hospital and a member of the surgical staff of the Long Island College and Bushwick hospitals, Brooklyn; died at his home in that city, April 29, from pneumonia, aged 56.

Clark Emory Spencer, M.D. Bellevue Hospital Medical College, 1873; a member of the Michigan State Medical Society and formerly mayor of Port Huron, Mich.; local surgeon of the Grand Trunk System; formerly town clerk and president of the village of Fort Gratiot, died at his home, May 5, from cerebral hemorrhage, aged 62.

Charles Francis Clowe, M.D. Albany (N. Y.) Medical College, 1888; a member of the American Medical Association; for two years a medical missionary in Portuguese West Africa; formerly city physician of Schenectady, N. Y.; died at his home in that city, April 29, from cerebral tumor, aged 45.

James Madison Gilmore Beard, M.D. Kansas City (Mo.) Medical College, 1875; for twenty years a resident of Fruita, Colo.; died at his home in that place, April 27, from cystitis, aged 67.

John Wordsworth Clemesha, M.D. College of Physicians and Surgeons, New York City, 1866; McGill University, Montreal, 1867; a member of the high school board of Port Hope, Ont.; president of the Midland Loan and Savings Company and Port Hope Gas Company; died in the Toronto General Hospital, April 20, from septicemia.

John R. Muse, (license, Tennessee, 1889); a practitioner since 1878; a member of the Tennessee State Medical Association; for many years a practitioner of Pinson and Lexington; and health officer of Henderson County; died at the home of his brother in Lexington, April 26, from cerebral hemorrhage, aged 77.

Oliver Hebert, M.D. College of Physicians and Surgeons, Chicago, 1889; formerly of Milwaukee, who went to Colorado several years ago for his health; was murdered recently in his cabin on his ranch, 27 miles from Grand Junction, and his body was interred in a cemetery in that city, April 26, aged 37.

Dwight B. Neal, M.D. Hahnemann Medical College, Chicago, 1887; formerly president of the Arkansas State Homeopathic Society; consulting physician to the Alpha Sanitarium and physician to the Jane Kellogg Home, Little Rock; died suddenly in his office, April 17, from cerebral hemorrhage, aged 55.

Charles L. Conaway, M.D. Iowa Medical College, (Eclectic) Des Moines, 1883; a member of the American Medical Association and secretary of the Chase County (Kan.) Medical Society; local surgeon of the Santa Fe System; died at his home in Cottonwood Falls, April 29, aged 52.

James Thornley, M.D. University of Virginia, Charlottesville, 1842; surgeon in the Confederate service throughout the Civil War; afterward a practitioner of Mount Sterling and West Liberty, Ky., and Nashville, Tenn.; died at the home of his son in Nashville, April 15, aged 93.

Martha George Ripley, M.D. Boston University School of Medicine, 1883; formerly professor of children's diseases in the Homeopathic College of the University of Minnesota; founder of the Maternity Hospital, Minneapolis; died at her home in that city, April 18, aged 68.

Thomas Marcus Warnock, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1884; formerly a practitioner of Tunnel Hill, Ill., and Liberty, Neb., who retired from practice and moved to Superior, Neb., and later to Sterling, Kan.; died suddenly, April 10, aged 60.

Albert Tracey, M.D. Queen's University, Kingston, Ont., 1862; for several years local surgeon of the Grand Trunk System at Belleville, Ont.; surgeon-lieutenant-colonel during the Riel Rebellion in 1885; died in the Belleville General Hospital, April 20, aged 76.

Abraham Ludwig Freund, M.D. Bennett Medical College, Chicago, 1877; a member of the Illinois State Medical Society; of Chicago; died in the Alexian Brothers Hospital, Chicago, May 5, three weeks after a surgical operation, aged 59.

Robert L. Walker, Jr., M.D. Western Pennsylvania Medical College, Pittsburgh, 1892; a member of the Medical Society of the State of Pennsylvania; surgeon of the Panhandle System at Pittsburgh; died at his home, April 30, aged 42.

James A. Monahan, M.D. Pennsylvania Medical College, Gettysburg, 1857; for several years a practitioner of Colorado and of Los Angeles, Cal.; died at his home in Coolville, Ohio, February 24, from cerebral hemorrhage, aged 86.

Arthur C. Dunn, M.D. Northwestern Medical College, St. Joseph, Mo., 1882; for six years postmaster of Byron, Neb., and for twenty-one years a practitioner of that place; died at his home, April 29, from angina pectoris, aged 55.

Tonnes Thams, M.D. University of Norway, Christiania, 1873; formerly of Minot, N. D.; a member of the North Dakota State Medical Association; died at his home in McVille, N. D., April 23, from heart disease, aged 63.

Daniel Aloysius O'Hearn, M.D. Harvard Medical School, 1902; a member of the Massachusetts Medical Society; a specialist on diseases of the eye, ear, nose and throat of Lowell; died at his home, May 3, from pneumonia, aged 33.

Joseph Wesley Welker, M.D. Chicago Homeopathic Medical College, 1887; Hahnemann Medical College, Chicago, 1905; of Mattoon, Ill.; died at the home of his nephew in Chicago, April 23, from heart disease, aged 52.

Jacob Fais, M.D. Medical College of Evansville, Ind., 1878; of Shawneetown, Ill.; died at the home of his brother in Louisville, Ky., April 25, from disease of the stomach, aged 73.

Z. T. Adams, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1878; died at his home in La Grange, Cal., April 24, aged 63.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

WINSLOW'S SOOTHING SYRUP

How a Poison Label Protects the Public

Winslow's Soothing Syrup, as every physician knows, is one of the morphin-containing "baby-killers." Before the federal Food and Drugs Act went into effect, no hint of the presence of this dangerous drug was given the purchaser. Since, however, the alcohol and morphin content has, perforce, been declared on the label.

Unfortunately, a large proportion of the people who use this preparation are not of the most intelligent kind and do not realize the menace that the word "morphin" conveys to those whose knowledge is greater. The British Pharmacy Act recognizes the lack of technical knowledge in those persons who purchase "patent medicines" and requires all preparations of this kind that contain any drugs scheduled in the act as poisons to be labeled "POISON." Winslow's Soothing Syrup, as sold in Great Britain, had to have the following statement printed on the label:

> "This preparation, containing, among other valuable ingredients a small amount of morphin is in accordance with the Pharmacy Act herewith labeled POISON."

Even the most ignorant know the meaning of the word "poison." It carries with it a warning that is understood and that holds attention. The poison label has doubtless been the means of saving the lives of many infants and, as a natural corollary, has been responsible for a much smaller sale of the nostrum than it would otherwise have enjoyed. Doubtless, the Anglo-American Drug Company, which sells Winslow's Soothing Syrup, has been forced to recognize the fact that a nostrum cannot have a large sale so long as it has to carry the word "POISON" on its label. At any rate, Winslow's Soothing Syrup, as now sold in Great Britain, contains no morphin, potassium bromid having been substituted for the opiate. Recently analyzed by the chemist of the British Medical Association, the product on the British market was reported to have the following composition:

Potassium bromid	2.0 per cent.
Alcohol	4.3 per cent. by measure
Essential oil (anise)	about 0.1 per cent.
Sugar	56.5 per cent.

In spite of this radical and essential change in the formula, the manufacturers still publish the statement that appeared on the label before the change was made:

> "This valuable preparation is the prescription of one of the most experienced and skilful nurses in America."

To the babies of the United States Winslow's Soothing Syrup still goes with its deadly morphin. A bottle of the stuff purchased in Chicago, May 9, 1912, brought out one fact that makes for encouragement and optimism. In none of half-a-dozen of the large drug stores on State Street was it possible to purchase this vicious mixture. The druggists did not handle it. No such difficulty was encountered in the drug section of one of the department stores.

We have once more, then, a verification of the oft-declared fact that the "patent medicine" business is inherently fraudulent and dangerous and will remain just as fraudulent and just as dangerous as the public will permit. An amendment to the Food and Drugs Act, extending the list of drugs whose presence must be declared on the label and requiring further, that "patent medicines" containing such drugs shall be labeled "poison," would materially strengthen the pure food law and would do much to protect the public. Incidentally it would do much to decrease the sale of dangerous and habit-forming "patent medicines."

Correspondence

The Brain of the Late Dr. John Herr Musser

To the Editor:—After the death of Dr. John Herr Musser, a number of absurd statements appeared in the lay press in regard to the weight of his brain. Believing it to be only just to the memory of our distinguished and beloved colleague, I place in your possession the following facts which have just been communicated to me by Dr. Edward Anthony Spitzka, the prosector of the American Anthropometric Society, of which Dr. Musser was a member.

The brain was removed by Dr. Milton J. Greenman. Dr. Greenman stated that he did not weigh the brain, but placed it in a 10 per cent. dilution of liquor formaldehydi in which it remained for three weeks and that it was then transferred to 60 per cent. alcohol. On May 11, the brain was transferred by Dr. Greenman to the care of Dr. Spitzka. The latter furnishes the following preliminary report:

"I weighed the brain, after draining it free of fluid for about ten minutes and found the weight to be 1,595 gm. (56.26 oz. avoirdupois). The circumference of the brain at this examination was 50.1 cm. The fronto-occipital are measures 28.5 cm., somewhat in excess of the average even in the other eminent as well as ordinary men previously measured. A striking feature in the superficial examination is the great extent of the posterior association area on the right side encroaching on the sylvian fissure, so that the latter is reduced to only 5 cm. while it is 7.5 on the left side."

F. X. Dercum, Philadelphia,
President of the American Anthropometric Society.

The Caffein Investigations: A Reply

To the Editor:—While I am utterly opposed to intruding personal questions into scientific discussions I do think that the letter of Dr. Wiley in the last number of The Journal, because of its inaccuracies and of its discourteous inferences, justifies a word of reply.

First, as to my connection with the Coca-Cola Co., it is true that I did testify in their favor in the suit brought against them by the government. Dr. Wiley neglects to say, however, that I was asked to appear for the government several months before I had the remotest idea that I should be asked by the company, and that I refused because I thought the contention that caffein was a poison was absurd.

Second, Dr. Wiley casts doubts on the scientific correctness of my investigations because he cannot understand how "such tremendous increase of energy and work" can occur without secondary depression. Nowhere in my paper do I speak of "tremendous" (or any similar adjective) increase of work accomplished; my published figures show an increase of 4.6 per cent. in the work done by the frog's muscle. Further, whether Dr. Wiley can understand it or not, this increase *did* occur; the data that I reported were observed facts, not some preconceived theory of what ought to happen. Until Dr. Wiley has more evidence of the inaccuracy of my work than his mere notions he has no right as a scientist to cast aspersions at it.

Third, he says that Dr. Salant has established that "caffein is a lethal poison in not very large doses" to rabbits, guinea-pigs, dogs and cats. On page 28 of the bulletin on the toxicity of caffein to which Dr. Wiley refers, Salant says that "the minimum toxic dose for the gray rabbit is about 325 mg. per kilo and the minimum fatal dose at least 350 mg. per kilo." These quantities would correspond to a dose, for a 150-pound man, of about 350 grains for the toxic, and 380 grains for the lethal, dose; in other words, a man would have to drink in the neighborhood of 270 cups of coffee to get a poisonous dose of caffein. Yet this is what Dr. Wiley calls "not very large doses!" On page 79 of the same bulletin Salant says (speaking in this instance of a dog): "In this case 100 to 125 mg. per kilo, given on ten consecutive days, did not cause any marked effects." It is on this work that Dr. Wiley bases his claim that caffein is a poison. If he chooses to call a substance a

V. 58
1912

poison which can be taken in doses of two drams a day (which would be the equivalent quantity for a man) daily for ten days without perceptible effect, I cannot agree with him.

I can easily afford to overlook the personal innuendoes of his letter, but I must object to any one pretending to scientific standing playing fast and loose with published scientific facts.

HORATIO C. WOOD, JR., Philadelphia.

Sanatogen

To the Editor:—Our attention has been called to a most unfair and unwarranted attack on Sanatogen which appears in your esteemed publication [April 20, p. 1216]. The article is such a perversion of the actual facts, and so completely—if not intentionally—misleading that we request, as a matter of common justice, that you give this reply equal publicity to your attack. The admiration and respect we have felt for your journal and our appreciation of the place it holds in the field of medical journalism, made your attack on a product like Sanatogen, representing so definitely the most painstaking and scientific research, the last thing expected. Indeed, it seems inconceivable that a journal apparently so alive to its responsibilities could publish broadcast an article so calculated to do harm, without first giving those whose interests are most at stake, an opportunity to substantiate their claims.

There never has been a time that we have not been ready to meet any request from THE JOURNAL, or the respected gentlemen composing the Council on Pharmacy and Chemistry, for all information and data concerning Sanatogen. Had we had the slightest inkling that our product—or the claims made for it—were open to question or criticism, we would gladly have submitted all of the evidence, clinical, experimental, and theoretical, on which every statement, however simple, has been based.

To make a response is difficult, because your article is not written in a fair, unprejudiced spirit. In fact, although one would expect a sober, serious consideration of a matter so fraught with importance (if your contention is right) your whole attitude is one of ridicule and jocularity. Is it right to present scientific material in such a way and show so little respect for those who have offered you no affront or done you no injury? A little investigation would have shown you that the statements we have made about Sanatogen are based on the experiences and opinions of such men as von Noorden, C. A. Ewald, Duhrssen, Eulenburg, Neisser, Binswanger, von Leyden, Krafft-Ebing, Tillmanns, Tunnicliffe, and thousands of other earnest, reputable physicians. Any one might differ with their conclusions, but is it courteous or decent to hold them up to ridicule and contumely?

Can a discussion thus conducted hope to solve a scientific problem or accomplish any real good?

It would hardly seem so, and with all due respect we cannot help but feel that the situation has its analogy in the legal doctrine, "when you have no evidence, ridicule and abuse your opponent and his client."

Sanatogen is a definite organic combination of (in round numbers) 95 per cent. casein and 5 per cent. glycerophosphate of sodium. The analysis as published in THE JOURNAL fails to show that this statement is untrue. The slight deviation as to the amount of casein present is explained by the fact that THE JOURNAL'S figures include the moisture, while ours are on the dry substance. Inasmuch as nearly all the moisture is absorbed after the product leaves the laboratories and is therefore added weight, the figures should be on the dry substance. It is hinted in the article that Sanatogen is a mere mixture of ingredients, in fact one of the gentlemen you quote openly intimates so. To this we say most emphatically that *anyone asserting Sanatogen to be a mere mechanical mixture of ingredients and not a definite chemical compound either wilfully misstates the facts or does not know.* Sanatogen represents a new idea or discovery in the domain of invalid dietetics and as such its process of manufacture as well as the product are protected by U. S. Letters Patent.

Assuredly it is the definite chemical combination found in Sanatogen on which the special value of this product as a medicinal food and tonic depends. A mere mixture of ingredients would represent only the sum-total of their individual virtues, but a definite combination of such ingredients means the formation of a new compound with properties of its own which far transcend those of any simple mixture of the orginal ingredients.

To compare Sanatogen to cottage cheese is the height of absurdity—as it was probably intended to be. The casein of Sanatogen is perhaps the most carefully purified milk protein available, and this fact is of essential importance when considering the value of Sanatogen as a medicinal food. To compare the casein of Sanatogen with crude commercial casein or with cottage cheese is as ridiculous as to compare a crude drug with the refined element. The same applies to the matter of cost. We suggest that an attempt be made to prepare purified casein according to Hammarsten's method, if one wishes to determine what labor and expense is involved in the operation. Possibly it will be found cheaper to buy Hammarsten's casein in the open market where the price is $3.50 per pound wholesale! And it is not a proprietary product, either.

Further, to compare the economic value of Sanatogen on the basis of calories is as unscientific as it is deliberately misleading. If the calorie standard only counted, a pound of oleomargarine would be as valuable as fifty eggs, a pound of laundry soap as valuable as a pound of choice beef. Sanatogen is not intended or recommended to replace ordinary foodstuffs. It is not recommended as a caloric or heat producer, but as a food-tonic supplying the essential elements of tissue construction and cell-repair in easily and perfectly assimilable form.

Digestibility, ease and completeness of assimilation count a great deal, and are the sole determining factors in cases of illness. Again, starch and fat are not essential substances to life. Without protein we cannot live. Exclude everything else from a patient's dietary, and he will live. Exclude protein and it is only a question of time before he dies. It is evident, therefore, that to measure the value of a given food in calories only is misleading and dangerous, and an editorial in your valuable publication of November 4 last distinctly points this out.

According to the most careful and extensive experiments, covering a large number of scientifically studied cases, Sanatogen is not approached in the matter of rapidity of digestion and absorption by any other known foodstuff. That such a product does exert a definite stimulating or activating effect on the digestive and assimilative functions, thus promoting the digestion and appropriation of nutritive material has been demonstrated over and over again. That the organic phosphorus of Sanatogen is almost completely retained and assimilated has been proved beyond doubt by carefully conducted metabolism experiments. That from this, and from the stimulating action on phosphorus and nitrogen metabolism, a favorable effect on the nervous system could result, is conceivable. That such an effect does actually take place has been demonstrated clinically in literally thousands of cases.

As to our advertisements and literature: Every claim made emanates from the freely recorded statements of competent observers, checked and rechecked by men who have been absolutely free from all bias or prejudice. And these opinions, moreover, are not the superficial, passing views of a few physicians. Instead our claims are based on the voluntary, unbiased written reports of clinical experiences by over 15,000 practicing physicians—among whom a goodly proportion are members of your esteemed Association—and on over 150 published articles in the leading medical journals of the world, some of which your journal has considered of sufficient importance to present to its readers in abstract form, suppressing, it is true, all mention of Sanatogen, although thereby the original was sadly emasculated, if not actually falsified.

Among the physicians who have carefully tested Sanatogen and determined its dietetic and therapeutic properties are many men of truly international reputation, men who are as far above suspicion as was Caesar's wife. At least one of these men was the honorary guest of your Association a few years ago.

It is such men that your article holds up to contempt and dishonor when you allow the false inference to go forth that Sanatogen is a mixture of casein and glycerophosphates. It is such men's careful researches and experience that you attempt to offset by the snap judgment of men whom we claim, without the slightest intent of disparaging them, to be in the present instance unfitted to give an opinion on Sanatogen inasmuch as they—with perhaps one honorable exception—have never tested or used the product. Their lack of definite knowledge of Sanatogen is shown by their persistent references to casein and the glycerophosphates, as though these two ingredients were separate and not chemically combined. To consider Sanatogen a mixture is to lose the vital detail of its specific value.

Now after all, is this a fair, judicial spirit, is this true scientific enquiry? Are we to accept offhand judgments in preference to the opinions of those who speak from years of observation of the effects of Sanatogen? In the name of justice and fair play, is it right for the great JOURNAL of the A. M. A. to ignore and suppress the accumulated evidence in favor of Sanatogen and cite instead the cursory opinions of men who have never seen Sanatogen, tested or observed its effect, who by the very nature of your enquiry must have been influenced subconsciously in favor of your side of the matter.

During the twelve years Sanatogen has been used, prescribed and recommended by thousands of competent physicians, it has been free from all secrecy. The truth has been told at all times. From the first we have cooperated with the profession. Never have we failed to safeguard the doctor's interests. Never have we suggested by word or inference that any person should employ Sanatogen to the exclusion of medical treatment. Not a day passes but we refer people who inquire about this or that bodily ill, to their physicians for advice.

We regret the length of this letter but feel that the scientific character of Sanatogen, its well-defined chemistry and the respect we owe to the men who have not hesitated to give their honest opinions concerning its food and tonic effects, make it imperative that we refute at once errors and misleading statements, and correct to the best of our ability the wrong impression you have allowed to go forth. The clinical reports and statements and the scientific evidence on which we have based our claims are constantly available and may be examined by any responsible person for verification or any other legitimate purpose.

We have tried to make this article temperate, fair and free from ill temper and ill feeling. We only ask for justice and feel that you will be willing—possibly anxious—to correct, so far as you can, the great wrong you have done us.

THE BAUER CHEMICAL CO.
By F. W. HEHMEYER, Resident Manager.

[COMMENT: We devote considerable space to the above free advertisement of Sanatogen, as THE JOURNAL does not want to be accused of being unfair, even to patent medicine venders. As our readers will recognize, the above is simply a reiteration of the statements that have been published in the advertisements of Sanatogen. The song that runs through all the advertising matter is that Sanatogen is a chemical compound, and since it is a chemical compound it therefore possesses properties not to be found in the ordinary mixture. It is the old, old story; the "synthetic" argument is as hoary as the nostrum business itself but fortunately the medical profession is no longer easily fooled by it.

As a matter of fact, even assuming for the sake of argument that the casein and glycerophosphate in Sanatogen are in chemical combination, it would be a union of the loosest kind, which on entering the digestive tract must be broken up into its more stable components, casein and glycerophosphate. To claim that Sanatogen possesses any properties not possessed by its essential constituents is a silly piece of pseudoscientific claptrap.

Of the testimonials on Sanatogen we shall at this time have nothing to say; THE JOURNAL has in the past repeatedly shown the worthlessness of this kind of evidence.

We have nothing to retract, rather we would emphasize and, had we space, enlarge on what we have already published, for we believe that a large and unfortunate portion of the public, that can ill afford it, is paying a ruinously high price for a substance having a very mediocre food value. That indigent consumptives, for instance, should be led by glittering falsehoods to squander on Sanatogen money that should go for "food tonics" of infinitely greater value, such as eggs, milk, vegetables and meats, is not only economic waste but inhuman cruelty.—ED.]

Association News

ATLANTIC CITY EXCURSIONS

Many Opportunities for Delightful Trips in Connection with the Annual Session

Many members will, as usual, take advantage of the trip to Atlantic City to enjoy excursions to other points of interest, making the meeting a part of a summer outing.

For example, one can purchase a ticket to New York or Boston and return from either of these points by sea to Norfolk. New York is eighteen hours by steamer from Norfolk, and Boston is thirty-eight hours. Steamer tickets include meals and berth. Certain roads allow stop-overs at points along their route within the final limit of the ticket.

Another return route from New York or Boston suggested is by way of Montreal, Toronto and Niagara Falls. These tickets entitle the purchaser to stop over at Philadelphia, from which point he will purchase a side-trip ticket to Atlantic City.

The following routes and rates are quoted merely as suggestions. All ticket agents will be glad to aid in arranging routes to suit the traveler.

Rail via Philadelphia to New York; returning, steamer to Norfolk, thence via Washington and Chesapeake & Ohio Railway. Rate from Chicago $36.00, and from St. Louis, $42.30.

Rail via Philadelphia to New York and Boston, thence steamer to Norfolk, and as above. Rate from Chicago, $42.75, and from St. Louis, $49.05.

Rail via Philadelphia to New York; returning, rail via Montreal, Toronto and Niagara Falls. Rate from Chicago, $39.70, and from St. Louis, $46.50.

Rail via Philadelphia to New York, thence rail to Boston; returning rail via Montreal, Toronto and Niagara Falls. Rate from Chicago, $37.45, and from St. Louis, $45.45.

The Committee on Transportation and Place of Session has previously announced (THE JOURNAL, May 4, p. 1406) the rates certain railroads offer to those who will attend the Atlantic City session. Since this announcement, the Southwestern Passenger Association has advised the committee that tickets to Atlantic City will be on sale from practically all their territory on and after June 1 throughout the season, good for return passage to the end of October at very low summer tourist fares.

EARLY ARRANGEMENTS DESIRABLE

The committee once more advises that application be made to local agents for full and exact information concerning rate of fare, limit of ticket, extension privileges and train accommodations. It also suggests that those who make their sleeper reservations early will enjoy the trip much more than the tardy ones who have to accept the remaining open train space. Already reports have been received of completely filled cars going from Kansas City, St. Joseph, Cincinnati, Des Moines, as well as on the Chicago train. Many other points are arranging for special cars. This does not mean that the railroads cannot accommodate all, but emphasizes the advantage of promptly completing arrangements. These arrangements should include a hotel reservation at Atlantic City, for while these hotels are amply able to care for the members who attend the meeting, it is a great comfort to know just where one is going when one leaves the train.

V. 58
1912

Entertainments

In addition to the social events already announced are the following:

Banquet of the Section on Nervous and Mental Diseases, Tuesday, June 4, 7:30 p. m., Marlborough-Blenheim.

College of Physicians and Surgeons, Baltimore, alumni reunion. The headquarters of this school will be Young's Hotel.

Alpha Omega Alpha Honorary Fraternity will hold its third international meeting at the Seaside House, Atlantic City, Thursday, June 6. Dinner at 6:30 (to which members may invite their friends). Plates $3. Session of delegates follows dinner.

Rush Medical College alumni reunion may be arranged. Those desiring a smoker are asked to address the president. Dr. John Ritter, 32 N. State St., Chicago, or care A. M. A., Exposition Bldg., Atlantic City.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

THE ACTION OF HEXAMETHYLENAMIN IN THE TISSUES

To the Editor:—In the Department of Therapeutics (April 20, p. 1195) you say of hexamethylenamin: "Its value lies in that it breaks up in the tissues and thus formaldehyd is liberated." In "Practical Therapeutics," Ed. 13, Hare says: "When first introduced it was thought when taken internally to set free formaldehyd in the urine; Cammidge has proved this to be incorrect." Why such inconsistent therapeutics?

C. R. BYARD, M.D., Fenix, Coah, Mexico.

ANSWER.—The statement quoted by our correspondent from Hare's "Therapeutics" appears to be somewhat strong. The physiologic action of hexamethylenamin may be stated briefly as follows: In itself it is somewhat antiseptic but not markedly so. When taken internally it is rapidly absorbed and is excreted by the kidneys and also into the various cavities of the body, such as the cerebrospinal canal, the sinuses of the nose, the gall-bladder, etc. Casper injected hexamethylenamin under the skin of a rabbit and found formaldehyd in the blood and also was able to detect it, in some cases, in the urine of persons taking hexamethylenamin, an observation which has been confirmed by Suter and Citron. In a number of cases, however, these chemists failed to detect any formaldehyd in the urine and P. J. Cammidge could not get it at all, so that it is evident that the elimination of formaldehyd after the ingestion of hexamethylenamin is an inconstant phenomenon. It is generally held that a partial decomposition with liberation of formaldehyd takes place if the hexamethylenamin is excreted in acid (but not in alkaline) urine, it being assumed that the acid of the urine is necessary to effect the decomposition. Cushny, however, states that "formaldehyd also appears in the bile and pancreatic juice when hexamethylenamin has been administered" and has suggested its use in gall-bladder infections. ("Pharmacology and Therapeutics," Ed. 5, p. 480.) From this it would appear that its decomposition is possible in alkaline liquids. While we must admit that the decomposition of hexamethylenamin into formaldehyd and ammonia is not essential for its therapeutic action, we believe that the statement in our therapeutic department, that its value lies in the fact that it breaks up in the tissues and thus formaldehyd is liberated, is fully justified.

ECZEMA AND OCCUPATION

To the Editor:—I report the following case in the hope of receiving suggestions as to diagnosis and treatment:

The patient, a white American man, aged 23, runs a "pantorium." One sister had a leg cut on a barbed wire, after which she had two or three attacks of trouble similar to that of my patient. She has not had any for the last ten years. My patient's personal history does not indicate anything of consequence, as he has had good health always with the exception of this particular illness, the first attack of which began five years ago and was very light. The second attack began one year ago, since which time he has had nine attacks. Patient's chief complaint is an eruption appearing on the back of the neck and hands, later covering face and reaching above the wrists. This eruption itches and burns considerably; forms vesicles which break, on which the eruption subsides, as do all the rest of the symptoms. There is very little fever at any time; pulse and respiration normal; tongue coated white, some eructation of gas from stomach; skin rather dry; frequent urination, quantity about normal; no albumin or sugar.

When this eruption appears it resembles erythema, which goes to vesiculation but does not form pus. These vesicles break down and go on to complete recovery. After the vesicles break the itching and burning stops and all symptoms abate. This stage lasts about one week. These vesicles do not form everywhere on the skin, but are rather scattered, the eruption never getting any farther than red blotches over most of the surface. In his work, in cleaning and pressing clothes, he uses a French dry cleaner, which consists of alcohol, ammonia, green soap, borax and a small amount of ether, all of which is diluted with rain-water. He also uses ammonia, gasoline and gasoline soap. The first attack was relieved with two or three applications of a weak solution of acetate of lead and sulphate of copper. This stopped the itching and burning and the eruption disappeared the second day. In the next attack the effects of this solution were not nearly so well marked; on later attacks it did not show any effects whatever. Calcium sulphid, in 2-grain doses every two hours, was given internally; later potassium iodid, 5 gr. four times daily, was given. Warm baths with strong soda solution were recommended, but none of the above-named treatments has had much effect lately. The itching and burning in this patient is considerably more on retiring, or on being in the house where it is warm. He is fairly free from it when out in the open air.

H. L. S.

ANSWER.—The description of the attacks leaves little doubt that they are eczema, which is probably produced by exposure of the hands and face to local irritants. Any one of several ingredients of the solutions which the patient uses in his work might be responsible for the irritation—the alcohol, the ammonia, the green soap, the ether or the gasoline. It is probable that they are all acting to some extent in producing this irritation. Their action is probably in great part due to the extraction of fat from the skin.

It is possible that relief from the attacks cannot be obtained without avoidance of contact with these agents. Perhaps sufficient protection to prevent their irritation might be obtained by greasing the hands frequently with a bland ointment, like cold cream or petrolatum, and by wearing loose rubber gloves. When the attacks occur they can probably be relieved by avoiding contact with the irritants, by frequent bathing of the parts with a 1 per cent. aluminum acetate solution combined with an application of a bland ointment such as cold cream. Other methods of treatment for the acute outbreaks will be found in any standard text-book on dermatology under the treatment of acute eczema. Very frequently the susceptibility to such irritants as these compels change of occupation, when circumstances do not permit such a division of labor as will free the patient from the irritating part of the work.

VACUUM SUCTION APPARATUS

To the Editor:—Please describe the suction bell and just how to use it as Boas does in his non-operative treatment of hemorrhoids, as described in THE JOURNAL, March 9, 1912, p. 742. Where can I get it?

C. ULYSSES MOORE, Carthage, S. Dak.

ANSWER.—The suction glass referred to by Boas is the apparatus employed to excite hyperemia according to Bier's method. These pieces of apparatus suitable for application to different parts of the body can be obtained of surgical instrument houses. Boas' article gives no illustration of the bell. Illustrations of different forms of this apparatus are shown in THE JOURNAL, March 14,1908, p. 841. Other illustrations and descriptions can be found in "Bier's Hyperemic Treatment," by Meyer and Schmieden, published by W. B. Saunders Company, Philadelphia, but Boas' treatment of hemorrhoids seems to be a new adaptation.

SAL HEPATICA

To the Editor:—What is the composition of Sal Hepatica?

A. E.

ANSWER.—The composition of Sal Hepatica, as given in THE JOURNAL, March 26, 1910, on the authority of the *Druggists Circular* is: sodium chlorid, 13.05 parts; sodium sulphate, 26.27 parts; sodium phosphate, 29.80 parts; sodium bicarbonate, 18.0 parts; lithium phosphate, 0.04 parts; citric and tartaric acids, to make 100 parts. The matter has been reprinted in "Nostrums and Quackery," page 472, and in the "Propaganda for Reform," seventh edition, page 242.

The Public Service

JOURNAL Announcements, Knocks and Boosts, Books Received and changes in the Public Service will be found in the advertising section, commencing on the second page following reading matter.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

NEWSPAPER COMMENTS ON THE PUBLIC HEALTH CAMPAIGN

The efforts to secure adequate federal health legislation and the organized opposition to the Owen bill continue to be commented on in the daily press. But a marked change has taken place in the last six months. Evidently the fallacies of the objections urged by the National League for Medical Freedom and its dupes have become apparent to the editors of the country. An editorial endorsing the attitude of the league is now rarely seen; a saner and broader view now characterizes the newspapers. We quote parts of two editorials which are fair samples of the present utterances of the press. The Council Bluffs (Iowa) *Nonpareil* says, in part:

"Mr. ——— lectured in Council Bluffs Friday evening under the auspices of the American League for Medical Freedom. He . . . made some strictures on the medical fraternity worthy of consideration. He pointed out that members of the profession sometimes run off on tangents and become cranks on surgery and other special features. He pointed out that charges are sometimes extreme, that diagnoses are sometimes inefficient, etc. But he failed to state that these are exceptions and not the rule in the medical profession. He said nothing of the great work achieved by medical men in eradicating disease through sanitation and quarantine regulation. He said nothing of the thousands of lives saved and prolonged by antiseptic surgery. He made no mention of the fact that some surgeons who charge long prices in some cases perform other operations free of charge. . . .

"The impression which a hearer gets of the regular doctor by listening to an address by an agent of the medical freedom society is that he is an ignorant dispenser of drugs and nostrums, wholly unaware of the fact that there is any other way of curing people's ills. A visit to the office of any reputable physician dispels this notion. Their mission is not only to cure ills, but to drive disease from the face of the earth by teaching people how to live. What the American Medical Association seeks is not a monopoly of medical practice, but the well-being of the people of the country. Their glory is not so much in curing people as in the eradication of causes of disease as they have done in the Canal Zone, in Havana, in New Orleans, in the Philippines and all other places where the people have the good judgment to allow them to put in practice demonstrated scientific methods of sanitation. 'By their works ye shall know them,' is a test which the great body of medical men court.

"Regular medical men put in four years studying the anatomy of the human body and the art of materia medica. They do not deny the right of people to practice whatever form of healing they see fit, but they insist that before a man shall advertise himself as a healer that he shall qualify himself by a thorough study of the subject. If a man wants to be a mental healer it will not harm him in the least to know the anatomy of the human body as well as the nature and effect of medicine.

"There should be established a national health bureau and there should be medical inspection of schools. The liberties of the people should be carefully guarded, but the name of these liberties should not be used to prevent people from receiving all the possible benefits revealed by science in the art of healing."

Equally rational and fair-minded are the editorial comments of the Colorado Springs *Gazette*. Under the title "A National Department of Health," the *Gazette* says:

"The main object of the 'National League for Medical Freedom' appears to be to oppose all governmental efforts to safeguard the health of the people in city, state and nation. In particular, the league is opposed to the establishment of a federal Department of Health, as proposed in the Owen bill. The recent meeting in this city to organize a chapter makes the question of the establishment of a federal Department of Health of present local interest."

After discussing the details of the bill the editor continues:

"The object of the Owen bill is perfectly clear: It is to unify the efforts of the federal government in promoting and conserving the health of the people. There is no branch of the conservation movement more important than that of the conservation of the lives and health of the people."

"The individuals and organizations that have appeared in support of the Owen bill are a guarantee of the expediency and desirability of the establishment of a Department of Health. . . .

"The movement is strongly advocated by the American Medical Association, but it is not in any sense a movement by the medical profession or by any particular school. President Taft and Ex-President Roosevelt support the movement. Many other prominent men urge the passage of the Owen bill.

"Senator Owen has received letters from, at least, twenty governors urging federal action. Numerous granges and farmers' unions, labor organizations, insurance companies, college presidents, boards of health, charity organizations, and civic associations have urged the passage of the Owen bill. The Committee of One Hundred on Public Health, with Professor Irving Fisher of Yale as its chairman, is an organization without 'an ax to grind' that is strongly supporting the bill.

"The opposition to the bill is working through the National League for Medical Freedom. It has been charged that this league is supported and financed chiefly by patent medicine manufacturers. This charge has not been successfully refuted. The league has attempted to gain adherents by shouting 'our liberty is being infringed.' It is a safe guess, however, that the motives of the opposition are the same as those of food adulterators and patent medicine manufacturers who so fiercely opposed the passage of the pure food and drugs law."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

Tenth Month—First Weekly Meeting

ANATOMY OF THE KIDNEY

EXHIBIT FRESH SPECIMENS

KIDNEY: Situation, surface markings, important relations, size, weight, surfaces, borders and extremities. Relation of structures entering hilum.

STRUCTURE: Capsule, hilum, sinus, pelvis, calyces, pyramids. Cortical portion, medullary substance.

MICROSCOPIC ANATOMY: Uriniferous tubule; trace from capsule to pyramid. Structure of tubule, character of epithelium in different portions. Renal vessels; trace from renal artery to vein, three sets of veins. Difference in afferent and efferent vessels of Malpighian tufts. Relation of artery, vein and tubule in kidney.

Nerve supply of kidney. Lymphatics.

PHYSIOLOGY OF KIDNEY

SECRETION OF URINE: Ludwig's theory. Bowman-Heidenhain theory. Function of glomerulus, blood-pressure and pressure of urine in capsule. Effect (1) of increasing general arterial pressure, (2) of obstructing venous outflow, (3) of obstructing ureter.

FUNCTION OF CONVOLUTED TUBULE: Character of epithelium, secretory or absorptive. Facts in favor of absorption, in favor of secretion.

ACTION OF DIURETICS: Due to increase of blood-pressure or direct stimulation of epithelium? Vasodilator and vasoconstrictor nerves.

COMPOSITION OF URINE

PHYSICAL CHARACTERISTICS: More important elements found. Nitrogen; origin, per cent. of proteid intake. 1. Urea nitrogen; per cent. of total, origin, where produced, importance. 2. Ammonia nitrogen; per cent., significance. 3. Creatinin nitrogen; origin, effect of exercise. 4. Purin body nitrogen; chemical relation of purin nucleus, hypoxanthin, xanthin and uric acid. Exogenous and endogenous origin of purin material.

Elimination of inorganic salts.

REFERENCE BOOKS FOR THE TENTH MONTH

Mitchell: Diseases of the Kidney.
Osler's Modern Medicine.
Nothnagle's Practice.
Allbutt's System of Medicine.
Text-Books on Practice of Medicine.

V. 58
1912

Medical Education and State Boards of Registration

COMING EXAMINATIONS

DELAWARE: State Society and Homeopathic Examining Boards, Dover and Wilmington, June 18-20. Secretary of Medical Council, Dr. Henry W. Briggs, Wilmington.

IOWA: Capitol Building, Des Moines, June 13-15. Sec., Dr. Guilford H. Sumner, State House, Des Moines.

KENTUCKY: The Armory, Louisville, June 3-5. Sec., Dr. J. N. McCormack, Bowling Green.

LOUISIANA: Regular, Tulane University, New Orleans, May 30 to June 1. Sec., Dr. A. B. Brown, 108 Baronne Street.

MARYLAND: Regular, 1211 Cathedral Street, Baltimore, June 18. Sec., Dr. J. McP. Scott, 129 West Washington Street, Hagerstown; Homeopathic, St. Luke's Hospital, Baltimore, June 13-14. Sec., Dr. O. N. Duvall, 1326 North Mount Street, Baltimore.

MICHIGAN: Ann Arbor, June 11-13. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: State University, Minneapolis, June 4. Sec., Dr. Thomas S. McDavitt, Lowry Building, St. Paul.

MISSOURI: Gymnasium of the St. Louis University, St. Louis, June 24-26. Sec., Dr. Frank B. Hiller, State House, Jefferson City.

NEBRASKA: Senate Chamber, State House, Lincoln, May 22-23. Sec., Dr. C. P. Fall, Beatrice.

NEW JERSEY: State Capitol, Trenton, June 18. Sec., Dr. H. G. Norton.

NEW YORK: June 25-28. Chief of Examinations Division, Mr. Harlan H. Horner, Department of Education, Albany.

NORTH CAROLINA: Hendersonville, June 11. Sec., Dr. Benjamin K. Hays, Oxford.

OHIO: Columbus, June 18-21. Sec., Dr. George H. Matson, State House, Columbus.

PENNSYLVANIA: Philadelphia, Pittsburgh and Harrisburg, June 24-27. Secretary of Bureau of Medical Education and Licensure, Nathan C. Schaeffer, Harrisburg.

SOUTH CAROLINA: Columbia, June 11. Sec., Dr. A. Earle Boozer, 1806 Hampton Street.

TEXAS: Austin, June 27-29. Sec., Dr. J. D. Mitchell, Fort Worth.

VIRGINIA: Richmond, June 18-21. Sec., Dr. R. S. Martin, Stuart.

WISCONSIN: Milwaukee, May 28-30. Sec., Dr. J. M. Beffel, 3200 Clybourn Street.

New State Board Rulings in Louisiana

At a meeting of the Louisiana State Board of Medical Examiners, April 24, 1912, the board decided not to accept applicants for reciprocity who at any time have taken its examination and failed to make the required percentage. The board also decided to examine students at the end of their second year in anatomy, chemistry and physiology, providing they can present credentials from the medical college they are attending, certifying to the fact that they have passed all the examinations in the work of those years. These rulings take effect immediately.

Iowa February Report

Dr. Guilford H. Sumner, secretary of the Iowa State Board of Medical Examiners, reports the written examination held at Des Moines, Feb. 6-8, 1912. The number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 17 of whom 14 passed and 3 failed. Twelve candidates were licensed through reciprocity. The following colleges were represented.

PASSED

College	Year Grad.	Per Cent.
Chicago College of Medicine and Surgery	(1911)	84, 85.5
Bennett Medical College, Chicago	(1911)	80.8
Northwestern University Medical School (1906) 89.5; 88.5; (1911) 89.8.		(1910)
College of Physicians and Surgeons, Chicago	(1911)	80.8
Keokuk Med. Coll., Coll. of P. and S.	(1903)	89.2
University of Louisville	(1910)	90.5
Barnes Medical College	(1908)	80.2
Western Pennsylvania Medical College	(1907)	83.5
Memphis Hospital Medical College	(1911)	82.6
University of Nashville	(1910)	88
Marquette University, Milwaukee	(1911)	83.1

FAILED

State University of Iowa, College of Medicine	(1897)	66.8
St. Louis College of Physicians and Surgeons	(1910)	*78
Marquette University, Milwaukee	(1911)	72.3

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Bennett Medical College, Chicago	(1910)	Indiana
Rush Medical College	(1910)	Colorado
University of Louisville	(1910)	Wyoming
Ensworth Medical College	(1910)	Missouri
Washington University, St. Louis	(1910)	Missouri
University Medical College, Kansas City	(1906)	Kansas
Barnes Medical College	(1908)	Missouri
University of Oklahoma	(1911)	Kansas
Jefferson Medical College	(1910)	Maine
Wis. Coll. of P. and S., Milwaukee	(1898)	Wisconsin
Marquette University, Milwaukee	(1895) (1905)	Wisconsin

* Fell below 60 in obstetrics.

Arizona April Report

Dr. Ancil Martin, secretary of the Board of Medical Examiners of Arizona, reports the written examination held at Phoenix, April 1-2, 1912. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 14 of whom 8 passed and 6 failed. The following colleges were represented

PASSED

College	Year Grad.	Per Cent.
Rush Med. Coll.	(1890) 85.7; (1909) 82.4; (1911)	82.9
Northwestern University Medical School	(1896)	79.3
National Medical University, Chicago	(1897)	81.4
University of Minn., Coll. of Med. and Surg.	(1900)	77.9
New York University Medical College	(1898)	77.8
University of Virginia	(1896)	83.9

FAILED

Denver and Gross College of Medicine	(1909)	73
Louisville Medical College	(1899) 65.5; (1906)	74.4
Homeopathic Medical College of Missouri	(1909)	68.1
University of Nebraska	(1908)	74.5
Tennessee Medical College	(1907)	64.2

Colorado April Report

Dr. David A. Strickler, secretary of the Colorado State Board of Medical Examiners, reports the written and oral examination held at Denver, April 2, 1912. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 9 of whom 8 passed and 1 failed. Seventeen candidates were licensed on presentation of satisfactory credentials, including state licenses. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Colorado	(1911) 87.4, 87.5, 88, 88.9, 90.5	
St. Louis University	(1904)	83.2
University Medical College, Kansas City	(1901)	82.2
Medico-Chirurgical College, Philadelphia	(1911)	78.7

FAILED

Howard University, Washington, D. C.	(1906)	62.

LICENSED ON PRESENTATION OF SATISFACTORY CREDENTIALS

College	Year Grad.	State Licenses
University of Alabama	(1910)	Alabama
Chicago Homeopathic Medical College	(1902)	Illinois
Rush Medical College	(1893)	Illinois
Louisville Medical College	(1895)	Kentucky
Southern Homeopathic Med. Coll., Baltimore	(1904)	Texas
Hamline University	(1897)	Minnesota
Missouri Medical College	(1891)	Kansas
Omaha Medical College	(1897)	Nebraska
University of Nebraska	(1911)	Nebraska
Syracuse University	(1905)	New York
Medico-Chirurgical College, Philadelphia	(1890)	Penna.
University of Pennsylvania	(1909)	Maryland
Western Pennsylvania Medical College	(1894)	New Mexico
University of Tennessee	(1903)	Oklahoma
Memphis Hospital Medical College (1887) (1903)		Tennessee (1896) Mississippi

The following questions were asked:

ANATOMY

1. What differences microscopically and macroscopically are to be noted between compact and cancellous bony tissue? 2. Name the characteristic anatomic features of the first, second and ninth ribs. 3. Name the muscles attached to the upper end of the humerus. 4. Give the origin, insertion and nerve-supply of the muscles that flex the forearm on the arm. 5. Name the structures contained in a cross-section of the thigh on a level with the beginning of Hunter's canal. 6. Describe the vascular supply of the thyroid gland. 7. Give a brief description of the structures found between the layers of the broad ligament of the uterus. 8. What muscles lose their nerve-supply when the musculospiral nerve is divided in the musculospiral groove? 9. Give the relations and structure of the prostate gland. 10. Describe the pancreas, including its relations and blood-supply. Alternate question: Name the bones entering into the formation of the orbit.

PHYSIOLOGY

1. Name and give function of all principal and accessory organs of digestion. 2. (a) Locate the kidneys; (b) describe their histologic construction; (c) give their function; (d) mention the physiologic constituents of their secretion; (e) name the organs through which the urine is excreted. 3. Give two general functions of the spinal cord. 4. (a) What is the object of respiration? (b) What muscles are engaged? (c) Describe the pleurae and give their function. 5. (a) Locate the liver; (b) describe its minute structure. (c) From whence does it receive its nutrition? (d) What vessels return its blood-supply to the circulation? (e) What does it secrete? 6.

Name the organs of special sense and the special nerve supplying each. 7. (a) Name the female organs of generation. (b) What do you understand by a graafian follicle? (c) Describe an ovum. (d) Where does fecundation take place? 8. Mention five cranial nerves that have their deep origin in the fourth ventricle. 9. Name the muscles which give motion to the eye; (b) Describe the retina; (c) give its function. (d) What and where is the blind spot? (e) In what part of the retina is vision most acute? 10. Name the valves of the heart and describe their action.

CHEMISTRY

1. What are the chemical constituents of normal urine? 2. Enumerate the abnormal chemical substances found in urine. 3. What are the sources of albuminuria? 4. Name and describe two chemical tests for glycosuria. 5. What are the chemical constituents of the two most common forms of urinary calculi? 6. Name three common chemical disinfectants and describe their mode of action. 7. Give an illustration of a chemical reaction. 8. Give chemical formulas of three salts used in the practice of medicine. 9. Define and give an example of "chemical incompatibility," as used in reference to the prescribing of chemical salts as medicines. 10. What acids may be found in the stomach (other than ingested), and what is the significance of each?

PATHOLOGY

1. Discuss the morbid anatomy of cancer of the stomach. 2. Give the post-mortem findings in a case of empyema. 3. Describe the regeneration of bone. 4. In what pathologic processes is the *B. coli communis* implicated? 5. Discuss briefly the morbid anatomy of congenital heart disease. 6. Discuss the pathology of arthritis. 7. Discuss briefly the pathologic processes which may result from cholelithiasis. 8. In what conditions do we find edema of the eyelids? 9. How does a tubercle differ from a gumma? 10. What is the best method of opening a heart for demonstration post mortem?

TOXICOLOGY

1. From a medical standpoint define toxicology. 2. Give symptoms of poison by chloroform internally administered. 3. Give treatment of poison by chloroform. 4. Post-mortem appearance of one poisoned by chloroform. 5. Give symptoms of one poisoned by oxalic acid. 6. Give treatment of poison by oxalic acid. 7. Give post-mortem appearance. 8. Give signs of death by drowning. 9. Give treatment. 10. Give symptoms, treatment and post-mortem appearance of one poisoned by acetate of lead.

SYMPTOMATOLOGY

1. Discuss abdominal distention as a symptom of disease. 2. What are "tube casts?" What are their kinds? What do they indicate? 3. How many red blood-corpuscles are there in a cubic millimeter of blood? How many white corpuscles? In what diseases is variation of this ratio found? 4. What are the causes of displacement of the apex of the heart to the left? 5. Describe the area of liver dulness. What conditions determine alterations in this area? 6. What are the symptoms arising from an excess of thyroid secretion and from a deficiency of it? 7. What are the symptoms of epidemic cerebrospinal meningitis? 8. Describe the course of a case of small-pox. 9. What are the symptoms of acute transverse myelitis? 10. What are the symptoms of paralysis agitans?

SURGERY

1. Give differential diagnosis between fracture of the neck of the femur and traumatism of the hip. 2. Give the symptoms and prognosis of chronic catarrhal appendicitis. 3. Describe a case of tuberculous peritonitis. 4. Give the diagnosis of renal tuberculosis. 5. Describe a case of talipes equinovarus. 6. Give the symptoms of acute osteomyelitis of the tibia. 7. Give the symptoms of osteocarcinoma of the upper part of the femur. 8. Give the prognosis of fracture of the upper third of the shaft of the femur. 9. Give the local and constitutional causes of non-union of fractures. 10. Describe malignant tumors.

OBSTETRICS

1. Give the successive changes that take place in the ovum after fecundation and during its passage to the uterus. 2. Name and describe the five movements in the mechanism of an L. O. A. 3. Give the differential diagnosis between placenta previa and abruptio placentæ. 4. Give the causes, diagnosis and treatment of uterine inertia. 5. Give the indications and conditions requiring cesarean section and describe Sänger's modification. 6. Give indications and describe in detail manual aid. 7. Name indications, conditions and give technic in the use of low forceps. 8. Mention the varieties of hemorrhage that may affect the pregnant woman, the parturient woman and the puerperal woman. 9. What is placenta previa? Give its causes, varieties, symptoms and treatment. 10. Give in outline form the manner in which you would go about to make a diagnosis of the position of the child.

Rhode Island April Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, April 4-5, 1912. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 11 of whom 9 passed and 2 failed. The following colleges were represented.

College	Year Grad.	Per Cent.
PASSED		
George Washington University	(1906)	89.2
Georgetown University	(1910)	80
Baltimore Medical College	(1911)	88.1, 88.8, 90.7
Boston University	(1910)	84
Jefferson Medical College	(1908)	90.9
University of Vermont	(1911)	86.2
McGill University, Montreal	(1910)	88.7
FAILED		
Harvard Medical School	(1908)	76.5
University of Vermont	(1910)	69

Book Notices

DIE EXPERIMENTELLE PHARMAKOLOGIE ALS GRUNDLAGE DER ARZNEIBEHANDLUNG. Von Dr. Hans H. Meyer, Wien, und Dr. R. Gottlieb, Heidelberg, Professoren der Pharmakologie. Second Edition. Paper. Price, $3.50 and postage. Pp. 554, with 65 illustrations. New York: Rebman Company, 1911.

This German work is divided into eighteen chapters, of which each author prepared nine, the authorship being indicated in each case. The following subjects are considered: pharmacology of the motor nerve endings, central nervous system, sensory nerve endings, vegetative system (i. e., the autonomic nervous system of Langley, or the vegetative of the author of this chapter, of which the autonomic is classified as a part), the eye, digestion, genitalia, circulation, respiration, kidney function, sweat secretion, metabolism, muscles, blood, antipyretics, irritants, agents directed against the causes of disease (including serums, antiseptics, parasiticides, anthelmintics), and a final chapter added in the present edition and treating of the conditions for the actions of drugs. The somewhat arbitrary arrangement necessitates reference to many of the pharmacologic agents in more than one part of the book, and it even requires the repetition of the same statement concerning a given drug in some instances, but this is never made an occasion for padding, and the arrangement facilitates the consideration of the drugs of any given group.

As usual with text-books of pharmacology, the physiology of the organs on which the drugs act is discussed briefly before taking up the mode of action of the drugs. The history of the drugs is considered in many cases, but this occupies much less space than in many of the older text-books. Marginal notes are employed freely to indicate changes of subject, attention being directed to the most important agents of a group by heavy black-faced type, while those of lesser importance are indicated by black-faced type, and small italics are used for the unimportant drugs. Those who prefer first-hand information will find the work of especial value by reason of the extensive and well-selected bibliography, embracing more than 2,000 references; these are given with a greater degree of accuracy than one usually finds in such works. These references include many which bear dates but little preceding the publication of the book.

The American practitioner will be surprised to find scant mention, or none at all, of many drugs with which he is quite familiar, and which have a wide use among us, such as aconite, colchicum, cactus, hydrastis and many other well-known drugs of doubtful value, besides a great many proprietary preparations. Aconite is dismissed with a very few lines as one of those drugs which the modern physician employs but little. This statement will be received with a variety of opinions by those who believe that aconite possesses certain well-defined therapeutic uses, though it would be difficult to explain its usefulness with a full knowledge of its pharmacologic and toxic actions. Colchicum is wholly omitted, probably with greater reason than is found for the scant consideration of aconite, but one would think that the toxicology of colchicum would suffice to insure its notice. The omission of cactus is certainly quite proper, for it has absolutely no known pharmacologic or therapeutic actions.

The very slight attention given to the host of proprietary preparations with which the American market is flooded deserves the careful attention of American physicians because these authors are in an excellent position to form a correct estimate of the value of these preparations and of the testimony concerning them.

While it is impossible to take up the subject-matter in detail, it is interesting to note the authors' views concerning alcohol, to which the index contains fifty-two references, but it is not to be understood that there are so many separate accounts of its action. What has just been said serves to illustrate the nature of the index, which is admirably arranged to facilitate reference to any particular action of a given drug.

The authors tend to consider the pharmacology of the various drugs with especial reference to such amounts as are used in therapeutics—a tendency foreshadowed in the title of the book. This makes the subject less confusing to the general reader

than is the case with those works in which the attempt is made to detail the actions of drugs when used in all grades of dosage.

It is regrettable that the work has not been translated into English, for it is so clear and so comprehensive, so far as the real essentials are concerned, that its use could not fail to improve the practice of therapeutics in the United States, and it is safe to say that we have no work of the kind which is at once so concise, comprehensive and representative of the most recent pharmacologic ideas.

OBSERVATIONS ON THE NATURAL HISTORY OF EPIDEMIC DIARRHEA. By O. H. Peters, M.D., D.P.H. Cloth. Price, $2.25 net. Pp. 177. New York: G. P. Putnam's Sons, 1911.

This is an interesting study of an epidemic of diarrhea which occurred in Mansfield, England, during the summer and autumn of 1908. While the area studied and reported on only includes two districts, the careful manner in which the investigation was carried on makes it a valuable contribution to the literature on the subject.

Peters first presents a statistical study of age, prevalence, fatality, etc., afterward taking up the clinical features of the disease and the influence on the epidemic of social relations, including houses, occupations, school attendance, condition of yards, streets, etc., domestic sanitation, and condition of the food-supply, including water. He then discusses at length the epidemiologic features, discussing various theories as to the causation of epidemic diarrhea, the methods of transmission, the factors governing epidemic prevalence, the influence determining the mortality and morbidity, etc. A carefully considered chapter on prevention and treatment summarizes the experience obtained in the epidemic under consideration. Peters gives a careful summing up of his conclusions, of which only the positive findings are noted here.

Regarding prevalence, he found the disease to be a veritable scourge in some midland towns, attacking 10 per cent. of the population during the season. Under clinical features, he regards the incubation period as from six to thirty hours, the duration of the attack depending on the susceptibility of the patient. The mortality is largely confined to infants and is in direct ratio to the previous ill-health of the patient. Occupation and school attendance were not regarded as important factors in the spread of the disease, but the sharing of yards in common by several families seemed to have a marked influence on the extent of the infection. General dirtiness of the house, yard and surroundings was found to increase the prevalence of the disease. The milk-supply apparently plays no part in its production, infection within the house being the commonest method, and it being frequently found where milk is altogether excluded.

While regarding the fly as an important factor in transmission, the author does not attempt to determine its exact importance in this connection. Regarding prevention, isolation of all cases is advised, also general cleanliness in the household, the public disinfection of all polluted matter, breast-feeding for infants and proper care of food materials.

Bibliographic references are numerous and valuable, and the book as a whole constitutes an excellent example of modern, scientific sanitary methods, and of the opportunities for work which may be found by any health officer who has the necessary training and discernment.

STATISCHE GELENKERKRANKUNGEN. Von Dr. Georg Preiser, Hamburg. Paper. Price, 10 marks. Pp. 278, with 272 illustrations. Stuttgart: Enke, 1911.

In describing the static diseases of the joints the author starts out with the assertion that each extremity, upper as well as lower, forms a static unit and that any static disturbance affecting primarily only one joint or one bone must have its effect extended to all of the bones and joints of that extremity. The primary change consists in an incongruence of the joint-surfaces, either of an anatomic or of a habitually functional nature. A joint becomes incongruous, as the author terms it, when, as for instance, in a hip a part of the cartilaginous surface at the head of the femur, as a result of pathologic or habitual rotation changes, fails of contact with the cartilaginous surface of the acetabulum. When such a condition exists in any joint for a sufficiently long time serious consequences follow.

The author considers the above as the basis of those changes which take place in the bones and joints and which he denominates static. The conditions are then taken up in detail, beginning at the pelvis and the hip and extending downward to the foot and then the changes found in the upper extremity are discussed in the same general order. In presenting this theory Preiser particularly emphasizes the necessity of studying, not simply reading, what he terms the dry part of the subject, namely, the changes which take place in the bones and articulations. The work is unusually well illustrated with numerous *x*-ray plates and diagrams and the whole subject is presented in such a clear manner that the reader is sure to be convinced that the author has much on his side of the argument.

RURAL HYGIENE. By Henry N. Ogden, C.E., Professor of Sanitary Engineering in College of Civil Engineering, Cornell University. Cloth. Price, $1.50 net. Pp. 434, with 78 illustrations. New York: The Macmillan Co., 1911.

This book represents an effort to present to the rural population information on those subjects popularly known as hygiene. Being written by a civil engineer, it discusses the structural side of hygiene rather than the purely medical side and is intended to supplement the physician and not to eliminate him. Books of this sort are needed, as it is recognized that the essential factor in the problem of keeping our country districts populated and productive is to make country life more attractive and living conditions in the country more sanitary. Ogden discusses such practical questions as the location of the house, the composition of soils and the construction of houses and barns with reference to healthfulness, the best methods of constructing damp-proof basements and cellars for houses and barns, ventilation, water-supply, including the quantity required, the source of the supply, the desirable qualities and the best methods of securing and distributing it. Sewage disposal is given a chapter by itself containing a discussion of sewage beds, subsurface tiling, septic tanks and other methods. Preparation and care of foods and beverages, and methods of disinfecting houses, stables and other buildings are also discussed. Seven chapters are devoted to personal hygiene and infectious diseases, including tuberculosis, pneumonia, typhoid, children's diseases, parasitic diseases, small-pox, diphtheria and tetanus. These diseases are considered entirely from a hygienic standpoint, no effort being made to discuss them clinically. For instance, in the chapter on typhoid, the death-rate for New York, the death-rate among the rural population and the annual financial loss sustained by the people of the state are discussed, also the method of transmission, illustrative cases showing the factor of polluted water, as well as milk and food, and the factor of fly transmission.

This book is one of the Rural Science Series, and can be cordially recommended to physicians for use in families not only in the country, but in towns and cities as well.

THE MORTALITY OF ALCOHOL. A Statistical Approximation of the Deaths in the United States in Which Alcohol May Figure as a Causative or Contributory Factor. By Edward Bunnell Phelps, M.A., F.S.S. Cloth. Price, $2. New York: Thrift Publishing Co., 1911.

This is a statistical study in which the question is discussed from the standpoint of the statistician and actuary rather than from the standpoint of the physician. The figures are taken from the mortality reports of the United States Bureau of the Census, for the registration area for 1908. A tabulation of these reports shows that in the registration area in 1908 there were 18,337 deaths of males between 20 and 74, in which alcohol may have been an important factor, and 13,664 deaths between the same ages and in the same territory, in which alcohol may have been a minor factor. When to these figures are added 852 deaths between the same ages in which alcohol was neither a primary or secondary cause, but may have been a harmful contributing factor, a total number of male deaths between 20 and 74 amounting to 32,853 is obtained in which alcohol may be regarded as having had some influence in determining the mortality. This is equal to 16.5 per cent. of all deaths between these ages. These figures were secured by averaging the estimates of the medical directors

of three of the leading life-insurance companies. As is to be expected, the author found that the lack of reliable statistics for a large portion of the country made it necessary to approximate the mortality for the United States. The registration area for 1908 included seventeen states, and seventy-eight cities in non-registration states and the District of Columbia. Estimating the total mortality in the entire United States in 1908 to be 1,282,746, Mr. Phelps estimates that about 66,000 deaths in the continental United States, or one in every thirteen deaths at adult ages, were due directly or indirectly to alcohol. While under present conditions such estimates can at the best be only relatively correct, they are of the utmost interest and illustrate the necessity and importance of securing adequate registration of the causes of deaths for the entire country as soon as possible.

SECOND REPORT OF THE LAKE MICHIGAN WATER COMMISSION. President, George B. Young, Health Commissioner of Chicago. Paper. Price, $1. Pp. 204.

This report comprises the minutes, papers read and discussions had at the fifth, sixth and seventh meetings of the commission in 1909 and 1910, covering various phases of the water-supply and the sewage disposal questions as related to Chicago and other cities along the Great Lakes, together with a number of papers on sewage disposal in Indiana, disposal of starch-factory wastes and a number of plates and tables relating to all these subjects. Dr. George B. Young, the president of the commission, discusses the dissemination of typhoid fever by lake vessels and recommends the protective vaccination against typhoid of all employees in the lake navigation service.

These papers are valuable as studies of the important question of the water-supply of the large and growing cities surrounding the lakes. The commission, as announced some time ago, may be discontinued or merged with the Great Lakes Basin International Pure Water Association, formed in Chicago in 1911.

BLOOD-VESSEL SURGERY AND ITS APPLICATIONS. By Charles Claude Guthrie, M.D., Ph.D., Professor of Physiology and Pharmacology, University of Pittsburgh. International Medical Monographs. Cloth. Price, $4. Pp. 360, with illustrations. New York: Longmans, Green & Co., 1912.

This work is one of a series of international medical monographs. The general editors say they "hope to issue in this series of international medical monographs contributions to the domain of medical sciences on subjects of immediate interest made by first-hand authorities who have been engaged in extending the confines of knowledge." So far as the subject of blood-vessel surgery is concerned it would be hard to find any one better qualified to write on it than the author of this monograph.

The technic of blood-vessel surgery is described with the greatest care as to details. In the experimental work on animals the technic is so perfect that, as Guthrie says, the same description applies to the human subject as well.

In this connection it might be of interest to some of the sentimental antivivisectionists to read what the author has to say about the great care and attention which he gives to his animals. He says: "But since no pains have been spared to avoid discomfort to the animals, it follows that the surgical measures employed are of the same character as those practiced on man in modern hospitals. In all cases animals are entitled to, and receive, the best possible treatment. Unkindness to an animal in the laboratory in any form would not be permitted."

When the success of blood-vessel surgery became assured from the technical side of the subject, the imagination of some ran far ahead of the facts, and the most impossible things were predicted. The author is very careful to keep within the facts and to disclaim all sensational and as yet impossible results.

While the limb of one animal has been grafted to the stump of another animal successfully, so far as the mechanical part of uniting the blood-vessels is concerned, yet, as the author says, no one has seen such a limb functionate nor is it likely that anyone will see it, at least in the very near future. Nor can it be said that the transplantation of any of the organs is yet physiologically successful for any great length of time. The cells slowly but inevitably undergo destructive absorption, showing that many of the problems of cell-life still remain unsolved. Many of the questions of physiology of cell-life are discussed by the author in a most interesting manner.

It is a common belief that the various saline solutions are practically harmless to cell-life, but the author's experiments show conclusively that all of the artificial solutions thus far proposed have a decided harmful effect on living cells.

Aside from the technic of blood-vessel surgery this little volume is very interesting from the many related physiologic and biologic problems which are discussed therein.

DISEASES OF THE SKIN AND THE ERUPTIVE FEVERS. By Jay Frank Schamberg, A.B., M.D., Professor of Dermatology and Infections Eruptive Diseases in the Philadelphia Polyclinic and College for Graduates in Medicine. Second Edition. Cloth. Price, $3. Pp. 573, with Illustrations. Philadelphia: W. B. Saunders Company, 1911.

The present edition presents the valuable features of the first edition, viz., the prominence given to the eruptive fevers and their diagnosis from other forms of skin disease and the excellent illustrations of all forms of skin disease. Some new chapters have been added and the chapter on pellagra considerably enlarged to correspond with the increasing interest in the disease. The section on the treatment of syphilis has been entirely rewritten to include treatment by salvarsan and a chapter on the Wassermann reaction added. The clear style, systematic arrangement and convenient size will commend the work to general practitioners.

HANDBOOK OF PHYSIOLOGY. By W. D. Halliburton, M.D., LL.D., F.R.C.P., Professor of Physiology, King's College, London. Tenth Edition (Being the Twenty-Third Edition of Kirkes' Physiology). Cloth. Price, $3. Pp. 923, with 502 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

Halliburton's well-known book has been again revised to bring it up to the minute in the rapidly growing knowledge of human physiology. The newly-determined facts concerning the ductless glands, the pituitary, etc., and the brain, have necessitated the restatement of many things, which has been done in this tenth edition. This is likewise true of the function of digestion and its chemistry. Many new illustrations have been added, a number of them being colored.

MANUAL OF OPERATIVE SURGERY. By John Fairbairn Binnie, A.M., C.M. (Aberdeen). Fifth Edition. Cloth. Price, $7. Pp. 1153, with 1365 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

The two volumes of previous editions of this work are now combined in one volume of convenient size, which makes it more acceptable as a text-book. The excellency of the text is maintained, although many changes and additions have been made. One of the notable commendatory features of the book is the large numbers of diagrammatic illustrations, which, although not artistic, certainly elucidate the text as well as can be desired.

UROLOGISCHER JAHRESBERICHT. Einschliesslich der Erkrankungen des Männlichen Genitalapparates. Redigiert von Prof. Dr. A. Kollmann in Leipzig und Dr. S. Jacoby in Berlin. Literatur 1910. Paper. Price, 20 marks. Pp. 485. Leipsic: Dr. Werner Klinkhardt.

This year-book is published in connection with the *Folia Urologica* and is furnished to subscribers at an increase of 25 per cent. in the subscription price of that journal. It contains the bibliography of urology with copious abstracts from the principal articles that appeared during the year 1910. As the *Folia Urologica* does not contain abstracts, this year-book is practically a supplement to this periodical.

MINOR AND EMERGENCY SURGERY. By Walter T. Dannreuther, M.D., Surgeon to St. Elizabeth's Hospital and to St. Bartholomew's Clinic, New York. Cloth. Price, $1.25 net. Pp. 220, with 32 illustrations. Philadelphia: W. B. Saunders Co., 1911.

This is an excellent book for the purpose for which it was written, and contains an abundance of wheat and little chaff; many practical hints of value to any one dealing with emergency surgery, and illustrations made for the book and not abstracted from the literature of the middle ages. The author has emphasized points of importance in practical work, and has abstained from giving unnecessary details.

V. 58
1912

Medicolegal

Enhancement of Injury By Unsuccessful Medical Treatment

(Fields vs. Mankato Electric Traction Co. (Minn.), 133 N. W. R. 577)

The Supreme Court of Minnesota holds that where a person is injured by the wrong or neglect of another, and he is not himself negligent in the selection of a medical attendant, the wrongdoer is liable for all the proximate results of his own act, although the consequences of the injury would have been less serious than they proved to be, if the attendant had exercised proper professional skill and care. The court says that, as a result of falling or being thrown to the ground while alighting from a street car, the plaintiff received injuries consisting in part of a straining and rupturing of the muscles and ligaments of the hip and the fracturing and crushing of the neck and head of the femur or thigh bone. She was given immediate medical treatment at her home. Three physicians were in attendance, and after attempting, without success, to keep the hip in place, they determined that an operation was necessary. The day following the accident she was taken to a hospital, and the crushed portion of the thigh bone and the head of the bone were removed. The resulting wound did not heal. At the time of the trial the plaintiff's physical condition was greatly impaired. The defendant offered to prove that the medical treatment given the plaintiff was unskilful; that the operation performed was unnecessary, and was not sanctioned by the recognized and approved practice of physicians and surgeons; that the unnecessary and improper operation greatly aggravated the plaintiff's injury, and caused the plaintiff's impaired physical condition at the time of the trial. The offer did not include any evidence tending to show negligence on the part of the plaintiff in selecting physicians or in submitting to their treatment. There was no error in excluding the evidence offered. Under the facts established, the negligence of the defendant was the proximate cause of the impaired physical condition of the plaintiff. The finding of the jury determined that the defendant's negligence in the operation of its car caused the plaintiff to fall therefrom. It was conceded that the plaintiff received a severe injury in so falling from the car. Such injury required expert medical treatment. The necessity for the attendance and services of physicians was created by the defendant. The plaintiff, without negligence on her part, obtained the attendance and services of physicians so made necessary. The risks incident to submitting to treatments and operations were thus incurred through the fault of the defendant, not through the fault of the plaintiff. Whether the physicians skilfully or unskilfully performed the necessary services, the plaintiff not being in fault in any matter, her impaired physical condition at the time of the trial followed in unbroken casual sequence the negligence of the defendant in handling the car.

Expenses of Quarantined Indigent Persons

(Inhabitants of Eden vs. Inhabitants of Southwest Harbor (Me.), 81 Atl. R. 1003)

The Supreme Judicial Court of Maine holds that Section 51 of Chapter 18 of the revised statutes of that state of 1903, which provides that the "nurses and other assistants and necessaries" furnished a quarantined person shall be "at his charge, or that of his parent or master, if able; otherwise at that of the town to which he belongs," was not repealed in 1909, but only the last clause changed. The court says that the right of action named in said section was provided for at the organization of the state, and it has come down through the various revisions in essentially the same form, except that prior to 1887 the municipal officers were charged with the duty which since that time has devolved on the local board of health. It has never been one of the pauper statutes, enacted for the relief of the poor. The assistance rendered and the expenses incurred were in no sense pauper supplies. They need not be applied for by the pauper himself nor by some one authorized by him, and no notice need be given to the town where the patient has his pauper settlement. The municipal officers and later the local board of health had full power to act when the emergency arose, and it was outside the jurisdiction of the overseers of the poor. The effect of Chapter 25 of the laws of 1909 is simply to change the last clause of Section 51, touching those persons who may not be able to pay, the indigent persons, and to make the town where such persons fall sick liable for all expenses, including those designated to prevent the spread of the disease and those for the comfort of the patient, "or such part thereof as the board may determine." Without that clause, the town furnishing the supplies would be liable for all the expense, but, with it, the effect is to give the local board the power to charge a part or the whole to the town of settlement. In other words, under the old statute expenditures for food for indigent persons were chargeable to the town of settlement, but expenditures for protection of the public health must be borne by the town supplying them. Under the new statute, all kinds of expenditures for indigent persons are grouped together, and it is left to the board of health to decide how much shall be borne by the town of settlement, and how much by the town where found. The new act does not restrict the power of the board under Section 51 to remove the sick and place them in quarantine. Nor does it abridge its power to collect all the expenses from the person himself if able. But Chapter 55 of the public laws of 1909 provides that for antitoxin furnished an indigent person the town furnishing shall be reimbursed. That is, antitoxin shall be charged to the town of settlement, but all other expenses shall be charged according to the determination of the board of health.

Failure of Counties to Furnish Medical Aid to Foreign Paupers

(Wood vs. Boone County (Ia.), 133 N. W. R. 377)

The Supreme Court of Iowa holds that a county is not liable in damages for failure to furnish adequate and timely medical aid and assistance to a foreign pauper who may transiently be within its borders. The court says that it is committed to the doctrine of absolute immunity in the performance of this governmental function to both the county and its officials. A county is an instrumentality of government, and the furnishing of aid to the poor is a governmental function. The necessity for and the extent of such relief is largely, if not wholly, a matter of discretion, and is quasi or somewhat judicial in character. The relief which may be granted a foreign pauper is temporary in character, and such persons may be prevented from acquiring a settlement in the county where found. Before one is entitled to relief under section 2230 of the Iowa Code, he must satisfy the overseer of the poor within a city that he is in such a state of want as requires relief at public expense, and even then this section does not require that such relief be furnished. Moreover, not only the overseer of the poor must be so satisfied, but the board of supervisors are also to look into the matter, and inquire as to the necessities of the case. It is a general rule that, where a governmental duty rests on a state or any of its instrumentalities, there is absolute immunity in respect to all acts or agencies.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Atlantic City, N. J., June 4-7.

American Academy of Medicine, Atlantic City, May 30-June 2.
Amer. Assn. of Genito-Urinary Surgeons, Philadelphia, June 7-8.
American Association of Medical Examiners, Atlantic City, June 3.
American Climatological Association, Hartford, Conn., June 10-12.
American Dermatological Association, St. Louis, May 23-25.
American Gastro-Enterological Association, Atlantic City, June 3-4.
American Gynecological Society, Baltimore, May 28-30.
American Medico-Psychological Association, Atlantic City, May 28-31.
American Neurological Association, Boston, May 30-June 1.
American Ophthalmological Society, Atlantic City, June 12-13.
American Orthopedic Association, Atlantic City, May 30-June 1.
American Otological Society, Atlantic City, June 10-11.
American Pediatric Society, Hot Springs, Va., May 29-31.
American Proctologic Society, Atlantic City, June 3-4.

American Society of Tropical Medicine, Atlantic City, June 3.
American Surgical Association, Montreal, May 29-31.
American Therapeutic Society, Montreal, May 31-June 1.
Connecticut State Medical Society, New Haven, May 22.
Illinois State Medical Society, Springfield, May 21-23.
Maine Medical Association, Portland, June 12-13.
Massachusetts Medical Society, Boston, June 11-12.
Missouri State Medical Association, Sedalia, May 21-23.
Nat. Assn. for Study and Prev. Tuberculosis, Washington, May 30-31.
National Association for Study of Epilepsy, Vineland, N. J., June 3.
New Jersey Medical Society, Spring Lake, June 11-13.
North Carolina Medical Society, Hendersonville, June 18-20.
Rhode Island Medical Society, Providence, June 12-13.
South Dakota State Medical Association, Mitchell, May 22-24.
Wisconsin State Medical Society, Wausau, May 22-24.

OHIO STATE MEDICAL ASSOCIATION

Held at Dayton, Ohio, May 7-9, 1912

Public Health the Preeminent Problem

At the first session of the Sixty-Seventh annual meeting of this association, at which were registered nearly seven hundred members, Dr. A. H. Lane, president of the Montgomery County Medical Society, welcomed the Association to the city, and introduced the president, Dr. Horace L. Bonner, of Dayton. In his address, Dr. Bonner contended that it was now time to fight the evils that imperil the nation. He stated that the causes of much trouble, misunderstanding and wrongful attacks on the health interests of the public were the general apathy of physicians toward important matters, the commercial spirit among the people and the profession, and the failure of medical men to appreciate the gigantic function of the profession. Political action was recommended where it is directed toward the preservation of health. He said that medical societies should not confine their action to technical or academic work, but should endeavor to secure public health educational measures. Law is effective only as it reflects public sentiment.

Owen Bill Endorsed

Dr. R. H. Grube, Xenia, offered a resolution endorsing the Owen bill. This was adopted unanimously, following strong pleas by Dr. John B. Murphy, president of the American Medical Association, and Dr. George H. Simmons, editor of THE JOURNAL of the American Medical Association. Dr. Murphy said that there were many forms of opposition to this bill, and that an unusual force was required to influence Congress to pass it. Dr. Simmons reiterated the statements of Dr. Murphy and said in addition that the National League for Medical Freedom had been promoted by "patent-medicine" interests, and that Senator Works' recent speech against the Owen bill had been an insult to the intelligence of the American people. In response to an inquiry, Dr. Simmons stated that the Owen bill, as amended, was satisfactory to the Association, although it fails to provide cabinet officers.

A resolution was adopted which pledges delegates to the A. M. A. to work for the tariff reduction on chemical glassware and optical instruments and to seek an amendment to the customs rules whereby a physician may import optical instruments under the category of "tools of his trade," as is applied to other trades and professions.

A resolution was adopted to the effect that societies in counties where there is no public school inspection are directed to present the matter of school inspection to school teachers' institutes in order that inspection may be secured.

The Influence of the Nose on Pulmonary Râles

DR. L. C. GROSH, Toledo: While not every deviation of the normal lung-sounds should be interpreted as a serious disease condition, even though occurring in the apices, the frequency of tuberculosis and the importance of an early diagnosis make even a slight deviation from the normal sounds over the apices worthy of consideration. An abnormally soft inspiratory murmur over the apex is suggestive of disease, but it abnormally occurs not only in tuberculous subjects, but also in persons who live in dusty atmospheres, as stone-cutters and miners.

Marked roughening must not be accepted as a pathologic sign too hastily, especially in children. A simple accentuation of inspiration is common in normal lungs. Bronchial breathing suggests an infiltration, and a marked accentuated bronchial expiration is usually interpreted as due to a tuberculous change; but the dividing line between the normal and the diseased condition is hard to designate, for these signs have all been found in people who are at least not tuberculous.

There is a class of cases in children and young adults in whom râles suggestive of tuberculosis occur in the apices, the previous history of which cases is usually the same; every spring and fall during the changeable weather these patients have usually had colds, manifested by change in the chest, cough, expectoration and frequent shortness of breath. These manifestations are usually tolerated during the day, but become more severe at night and often interfere with sleep. The patients are usually of fair nutrition, with temperature seldom above normal. Tuberculin, if used, is not followed by characteristic or general reaction. Examined radiographically the apices are found negative. No abnormality is revealed except in the respiratory tract. Over the right apex, seldom over the left, the breathing is vesicular in character, roughened inspiration and lengthened expiration whether the mouth be open or closed. Distinct medium sized moist and dry râles are constantly present. The sputum is usually present and is found free from tubercle bacilli. In the nasopharynx hypertrophied adenoids, alone or associated with similar conditions in the tonsils, deviations of the nasal septum, intumescence or hypertrophy of the turbinates, obstructed outlets of the accessory sinuses, or polypi, are frequently found. A thorough cocainization of the nasopharynx is frequently followed by a temporary cessation of the abnormal respiratory sounds of the chest, and when these abnormalities are corrected the lung signs disappear permanently, unless the nasopharyngeal trouble recurs, as it frequently does, when a recurrence of the râles in the chest follows.

These chest signs may be due to a nervous reflex from the branches of the fifth nerve in the nasopharynx to the vagus roots, thereby stimulating the vagus filaments in the lung and causing contraction of the bronchioles and vasomotor changes in them. The matter is valuable from a diagnostic standpoint and cocainization of the nasopharynx is worthy a trial as a means of differentiation of râles in the apices.

DISCUSSION

DR. L. F. ROUSH: As a diagnostic point of differentiation, the ordinary catarrh that produces râles does not have any rise in temperature unless acute, when it is only temporary, while in tuberculous trouble there is always some rise of temperature sometime in the twenty-four hours.

(To be continued)

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND

One Hundred and Fourteenth Annual Meeting, held in Baltimore, April 23-25, 1912

The President, DR. H. H. YOUNG, in the Chair

The list of officers elected for the ensuing year was given in THE JOURNAL, May 4, page 1383.

The House of Delegates adopted a resolution urging the American Medical Association to publish a magazine to be devoted to public instruction in matters of health, this work to be conducted under the auspices of the Council on Health and Public Instruction of the American Medical Association.

The John M. T. Finney Fund of $10,000 was presented to the society through Dr. Harry Friedenwald, chairman of the committee. It will be devoted to the advancement of surgery through the establishment of a lectureship, the purchase of books and periodicals on surgery, etc.

Medical Legislation in 1912

DR. H. H. YOUNG, Baltimore: The condition of the insane in this state was in many counties deplorable. Two years ago the lunacy commission secured the enactment of a law for the state care of the insane, and obtained a bond issue for $600,000 with which buildings were built at various asylums and a new hospital for the negro insane started. The legislature of 1912 passed an additional bond issue of $800,000, which is thought to be sufficient now to put the whole state of Maryland on the state-care basis. The tuberculous of

Maryland have also received attention from the law-makers, a splendid sanatorium having been provided for the treatment of incipient cases, and its further usefulness provided for by a considerable appropriation. The city of Baltimore is about to begin a hospital for more chronic cases, and has instituted the visiting nurse system which has already brought wonderful results. The State Board of Health has also accomplished great things by its educational work and by the distribution of sputum cups and other material for house disinfection. The last legislature also greatly assisted the State Board of Health by the passage of several very important laws, one of which was for the improvement of vital statistics, which will now place Maryland in the front rank in this regard. The increased appropriation will also make it possible to establish a department of sanitary engineering, to increase the tuberculous work, and also the milk inspection. The recent public health conference of the Medical and Chirurgical Faculty was a very great success, extending over a period of one week. At night prominent lecturers were secured to talk on various public health problems to large audiences. During the day demonstrations were made by numerous physicians of a splendid collection of public health exhibits. Particularly exhaustive and inspiring was the exhibit of the United States Public Health and Marine-Hospital Service. The legislature appropriated $5,000 for the continuance of this public health work during each of the next two years.

The Rôle of Fat in Surgery

DR. J. M. T. FINNEY, Baltimore: The wide distribution throughout the body of adipose tissue makes it a subject of general interest to all medical men, and especially to surgeons. Fat may have a beneficial and conservative function. On the whole, however, the effect of fat is deleterious rather than beneficial to the work of the surgeon. It is a tissue feebly resisting bacterial invasion. It does not heal readily; it is soft and pliable and easily torn and injured, leaving particles of fat or oil globules between the adjacent surfaces of the wound, thereby interfering with healing. When present in large amounts in the adominal wall it interferes with the manipulations of the surgeon and may necessitate a considerable lengthening of the abdominal incision. The very presence of fat in excessive quantities makes patients unfavorable subjects for an anesthetic and interferes with respiration and heart action, thereby producing cyanosis, venous stasis and increased hemorrhage, and thus adding to the duration and shock of the operation. The very condition of adiposity has given rise to certain surgical procedures, such as the lipectomy advocated by Kelly.

The question of fat embolism also deserves attention. Non-surgical traumatism, especially of a crushing nature, affecting bones, fatty livers, or any other accumulation of fat may lead to embolism of the pulmonary capillaries, less often those of the heart, brain and kidney. Surgical traumatism leading to fat embolism may be nothing more than the division of a thick panniculus, the omentum or mesentery, but usually it is far more forcible, and most frequently the cause is too energetic handling of the tissue, as in manipulations of the joints, particularly *braisement forcé*.

Cause of Death in Intestinal Obstruction

DRS. H. B. STONE, B. M. BERNHEIM AND G. H. WHIPPLE, Baltimore: The occlusion of high loops of intestine in such a manner that they contain no bile, food material, pancreatic or gastric secretion, leads to the rapid death of the animals, although the continuity of the alimentary tract has been reestablished. This has suggested that the cause of death in intestinal obstruction may be sought in the contents of these loops. The loops contain nothing but the secretion of the mucous membrane of the intestine and bacteria. This fluid is highly toxic to normal dogs on intravenous injection, after infiltration. The chemical study of this is not yet complete, but it is probable that the chief factor in the toxin production is the secretion and not the bacteria. Circulatory disturbances are not necessarily an important factor in death from this form of obstruction, as they may be experimentally eliminated and death will still result.

DISCUSSION

DR. FRANK MARTIN, Baltimore: The most plausible theory attributes death in intestinal obstruction to auto-intoxication, and certainly there is much in favor of this view.

DR. C. F. DAVIDSON, Easton: Free drainage of the fluid in the intestinal canal is of the greatest importance in cases of intestinal obstruction. In a case of obstruction following an appendicitis operation in which I did this recently, I felt that this procedure saved the life of the patient, who appeared to be moribund at the time of the operation.

DR. RANDOLPH WINSLOW, Baltimore: I have been especially impressed with the fact that obstruction in the upper portion of the bowel is practically always fatal.

DR. GUY HUNNER, Baltimore: Not enough attention is paid to lavage of the stomach in these cases. This is often a trying ordeal to the patient, but the good results furnish a justification for its employment.

Technic of Resection of Rib Under Local Anesthesia

DR. CHARLES BAGLEY, JR., Baltimore: General anesthesia does not seem to be altogether safe. The lung, which has perhaps been the seat of pneumonia, is now mechanically compressed by the accumulation of pus in the pleural cavity. In addition, air is allowed to enter the cavity during operation as the pus escapes, possibly causing serious difficulty. Local anesthesia, if it can be successfully produced, seems to be the proper method of protecting these patients against the severe pain of the operation. The patient is placed on the side opposite the disease. The field of the operation is prepared either in the usual manner or by the iodin method. The eighth rib is selected and the area infiltrated with Schleich's solution, beginning just to the inner side of the apex of the scapula and then extending 3 inches outward in the direction of the rib, care being taken to inject this solution into the true skin. An incision is then made from within a half inch of the outer extremity. The fibers of the latissimus dorsi muscle are now exposed and infiltrated with the solution, then divided. On retraction the periosteum will be exposed and may be anesthetized by vigorously rubbing in powdered cocain on an applicator, or injecting Schleich's solution under the surface, both methods seeming to act well. An incision is then made in the periosteum in the direction of the rib, an inch and a half long, and midway between the upper and lower border. From either end of the incision a cross-incision is made, extending from the upper to the lower border of the rib entirely through the periosteum. A periosteal flap is then formed above and below and is dissected from the outer surface of the rib. A pledget of cotton in a small mosquito forceps is dipped into the powdered cocain and the exposed surface of the rib vigorously rubbed until it is insensible to pain. Care must be taken that the wound is dry in order that blood and serum may not cause the cocain to flow along the lower portion of the wound and be absorbed. When the rib is partially cocainized the separation of the periosteum is again undertaken with a periosteum elevator. After final cocainization, the bone is divided by Liston's forceps, only the point of the blade being used, the instrument being held in a vertical position. When about one inch of the bone is removed a glistening surface is seen underneath. This is injected with Schleich's solution and an incision as large as desired made in the direction of the rib. Drainage-tubes are inserted and a couple of tucks of gauze placed at the angle of the wound, all secured by a safety-pin. Sutures are omitted—to save time and because of the importance of securing primary union in the presence of infection.

DISCUSSION

DR. F. J. KIRBY, Baltimore: In the majority of cases I believe that general anesthesia is preferable. In those in which it is not necessary to use pronounced pressure, however, cocain may be employed.

DR. G. C. NEY, Baltimore: I have used this method in two cases with satisfaction. One was a case of empyema and the other a case of encysted abscess of the chest wall. Both children were very ill, but in neither case did the local anesthesia produce any bad effects.

Preeclamptic Toxemia and Eclampsia

DR. J. M. H. ROWLAND, Baltimore: This is the most frequent variety of toxemia of pregnancy. It occurs in, perhaps, 5 per cent. of all cases in sufficient degree to cause definite symptoms, although the occurrence of severe toxemia and eclampsia is, of course, much less than this. Most writers state that eclampsia may develop suddenly. This is true, but I do not believe that it comes without warning. I have never seen or known this to occur. Careful inquiry will always give a history of such symptoms as lassitude, loss of appetite, slight headache, later becoming more severe, giddiness, disturbance of vision and edema, especially of the face. The puffiness of the eyelids is quite characteristic. The characteristic symptoms of preeclamptic toxemia and eclampsia are headache, albuminuria and disturbances of vision, and the characteristic convulsions. The number of the latter may vary from one to very many. I have seen more than fifty in one fatal case. Statistics would seem to indicate that the intrapartum convulsions are more frequent, the antepartum and postpartum following in order. The characteristic and constant pathologic change is found in the liver. The maternal majority seems to be about 20 to 25 per cent.; the fetal from 30 to 50 per cent. Prophylaxis is of great importance and includes all the measures usually adopted in the care of pregnant women, such as fresh air, reasonable exercise, regulation of the diet, avoidance of constipation, drinking of plenty of water, and a close supervision of the patient as to the occurrence of neuralgic pains, edema, disturbances of vision and albuminuria. The treatment of preeclamptic toxemia includes purgatives, especially calomel, administration of salt solution under the skin, or into the bowel, hot packs, morphin, bread and milk diet, usually milk alone, and induction of labor either by rupture of the bag of waters, or by the introduction of a balloon. The treatment of eclamptic attacks includes medicine to control the convulsions, to promote eliminations and to empty the uterus. Under the first head may be mentioned morphin, veratrum viride, venesection and chloroform. In the second group may be mentioned purgation, preferably with croton oil or calomel, followed by salines, hot packs and salt solution. The uterus may be emptied by rupture of the bag of waters, by dilatation of the cervix and the introduction of a dilatable balloon, or by cesarean section, either vaginal or abdominal.

DISCUSSION

DR. HIRAM WOODS, Baltimore: There are two classes of eye troubles associated with pregnancy: First, the total blindness which precedes an eclamptic seizure. In these cases the ophthalmoscope shows no lesions and the prognosis is good, although I have seen two cases in which permanent hemianopsia occurred. Second, the disturbances which may occur from the fifth to the ninth month are associated with failing vision, floating spots before the eyes, etc. The ophthalmoscope shows white spots in the retina, the picture being suggestive of albuminuric retinitis. The prognosis in cases of the latter disease is bad, death usually occurring within eighteen months from the chronic nephritis with which the condition occurs. In the case associated with pregnancy, without nephritis, however, recovery is the rule.

DR. T. C. ROUTSON, Frederick: It is usually stated that eclampsia occurs most frequently in cold weather, but most of the cases which I have seen have occurred during the hot months.

DR. E. B. CLAYBROOK, Cumberland: In the city the obstetrician is usually engaged a considerable time before the confinement, but this is much less frequently the case with a country practitioner. Thus it is difficult to exercise the proper supervision over the patient, which is so necessary to prevent eclampsia.

Overeating as a Cause of Appendicitis

DR. EMIL NOVAK, Baltimore: Within the past few years I have encountered quite a number of cases in which an attack of acute appendicitis followed very closely on overeating. No satisfactory explanation having been offered as to the mechanism involved in these cases, I was stimulated to inquire into the subject. Anatomic studies impressed me first of all with the relationship between the stomach and the superior mesenteric vessels, which ultimately supply the appendix. The artery arises from the abdominal aorta behind the stomach and passes from left to right between it and the vertebral column, arching under the greater curvature into the mesentery. The vein accompanies the artery for a distance, but before joining the splenic to form the portal, diverges from it somewhat, being placed on the right side of the vertebral column. An overdistended stomach is undoubtedly capable of causing pressure on surrounding structures, and especially, it would seem, on the superior mesenteric vessels. The normal capacity of the stomach in moderate distention is from 5 to 8 pints, or, rating a pint as a pound, 5 to 8 pounds. What is the effect of such compression on the superior mesenteric vessels? The resulting circulatory disturbance, whether it be an arterial anemia or a venous congestion, in either case, according to Mall and Salvioli, excites violent peristaltic movements in the small intestine. These explain the pain in the upper abdomen which usually inaugurates an attack of appendicitis. The appendix is made up of lymphoid tissue which is poorly resisting to infection. Furthermore, it is in relation with the cecum, a portion of the intestinal canal especially rich in microorganisms. As a result of the disturbances in the superior mesenteric circulation, this weakly resisting organ is made even less resistant to the action of the organisms always present in the cecum, especially the *B. coli communis*. The virulence of the latter is thereby relatively increased to a marked degree, the appendix falling an easy prey to its activity and a more or less severe type of appendicular inflammation ensuing.

(To be continued)

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Meeting held April 3, 1912

The President, DR. GEORGE E. DESCHWEINITZ, in the Chair

An Epidemic of Epithelioma (Molluscum) Contagiosum, With Some New Observations Concerning the "Molluscum Bodies"

DR. M. B. HARTZELL: A most extensive epidemic of epithelioma (molluscum) contagiosum occurred in a large institution for young men. There were several hundred cases extending over a period of four years. Apart from the extent and duration of the epidemic, many of the cases presented more or less unusual clinical features. The number of lesions in many cases was unusually large, in some instances amounting to a hundred or more, and in many cases marked itching was present. The disease was almost certainly transmitted by the towels in the gymnasium and swimming pool. In sections of a tumor fixed and stained according to the method of Levaditi some new features were found, such as the partial inclusion of cells, and forms of cells not previously described. Some of the cell-forms were undoubtedly the result of degeneration of the rete cells, but as to others, the evidence was not sufficiently convincing to exclude other possibilities entirely.

DISCUSSION

DR. F. C. KNOWLES: I had an opportunity of seeing these cases. They were exceedingly interesting in that the lesions were found on the trunk and not, as usual, on the face near the eyelids. I have seen two cases in which the scalp was involved and a few in which there were lesions on the penis and some on the scrotum. The contagiousness of the disease is either comparatively slight or takes a long time to act. In a home with which I was connected, I saw fifty-nine cases of molluscum contagiosum in about 400 children in six years. In one instance I was successful in obtaining inoculation on the skin producing the typical lesion of this disease. Usually itching is a very rare symptom.

Partial Gastrectomy in a Case of Multiple Carcinoma of the Stomach

DR. JOHN H. GIBBON: The patient, a man, aged 48, was operated on Jan. 27, 1912. He had had no gastric symptoms prior to June, 1911, when he began to have attacks of vomit-

V. 58
1912

ing. He was very anemic and had lost weight very rapidly. The history, blood examination, gastric analysis and physical examination indicated gastric cancer. A skiagram showed two lesions in the stomach along the greater curvature. No tumor could be felt. When the abdomen was opened, two distinct hard cancerous areas were found along the greater curvature at the points indicated in the skiagram. A partial gastrectomy was done. The patient made a satisfactory recovery and has gained 12 pounds in the past three weeks. Examination of the two ulcerated areas, which were separated by healthy mucous membrane, shows one to be an adenocarcinoma and the other a medullary carcinoma. The interesting points in the case are the short duration of the gastric symptoms, when considered in connection with the extensive, hard ulcers found in the stomach; the different histologic structures of the two growths, indicating that each is primary; and the fact that the growths were so situated that implantation by contact was impossible.

DISCUSSION

DR. W. M. L. COPLIN: It is an interesting question whether or not the cylindric cell or adenocarcinoma involving a glandular mucosa is or may be a preliminary or early stage of spheroidal or round-cell carcinoma, so-called. A possibility that has not, so far as I know, been urged, is that in glandular mucosa possessing cylindric cells, the initial stage of cancer is cylindric cell in type, and that following the rapid proliferation of invading cylindric epithelial cells a transformation gradually takes place, spheroidal cells eventually predominating. If such a view be correct, then instead of regarding these growths as essentially distinct primarily, it might be better to assume that one has either reached a later stage of invasion and evolution or is growing with such rapidity that the typical cylindric cell is not produced, and that the distinction is one of cell evolution rather than the presence of two essentially dissimilar types of growth. Morphologically, the two growths in this case are clearly distinct, and I have not seen in the sections evidence of intermediate stages. One would never for a moment suspect when looking at the two growths that they were from the same organ, much less that they were closely approximated.

The Importance of Remembering That Not All Pulmonary Physical Signs Are Those of Tuberculosis

DR. H. A. HARE: The physical signs of early tuberculosis of the lungs were well studied and thoroughly understood long before the bacillus of Koch was discovered. There is a tendency to regard all abnormal physical signs in the lungs as indicative of tuberculosis unless the symptoms are so indicative of other affections that tuberculosis is manifestly ruled out. I am not seeking to make light of the importance of the early diagnosis of tuberculosis, but rather to point out that some cases are not tuberculous, although thought to be so, and to emphasize the fact that there are no physical signs to be found in the chest which cannot be produced by lesions which are not tuberculous in origin. Nearly all of the cases of dulness and absence of vesicular breathing at the base of the lungs result in the diagnosis of "consolidation" or "pneumonia." In severe bronchitis, in whooping-cough and after operations in the upper abdominal segment the real state is often found to be atelectasis. The bronchial lymph-nodes are often the cause of marked physical signs. My point is not to deny that they are often tuberculous, but to state that they may be infected by other organisms than the tubercle bacillus, and that many physical signs thought to have their origin in the lung tissues are due to partial bronchial occlusion by pressure. The *x*-ray is valuable in clearing up this question. My object is not only to insist that we be always on guard against the ever-present possibility of pulmonary lesions, but also to emphasize the fact that every subacute or chronic pulmonary lesion presenting impaired resonance, prolonged expiration and, for a short time, febrile movement is not tuberculosis. We must be careful that the predominance of tuberculosis does not cause us to commit the patient to the constant woe of worry and alarm until we have excluded the conditions which produce physical signs in the chest similar to those of tuberculosis.

DR. JAMES TYSON: I meet cases of this kind every year. In addition to the fact of the untold misery from the supposition that a person has tuberculosis, the matter of statistics is very seriously interfered with. Also, the curability of consumption is exaggerated by such interpretations. Many of these doubtful cases are cleared up by examination for bacilli.

The Treatment of Persistent Pain of Organic Origin in the Lower Part of the Body by Division of the Anterolateral Column of the Spinal Cord

Experimental Work on the Function of the Anterolateral Column of the Spinal Cord

These two papers, by DRS. WILLIAM G. SPILLER and EDWARD MARTIN, and by DRS. WILLIAMS B. CADWALADER and J. E. SWEET, respectively, are published in this issue of THE JOURNAL.

LOUISIANA STATE MEDICAL SOCIETY

Thirty-Third Annual Meeting, held at New Orleans, April 23-25, 1912

The President, DR. R. O. SIMMONS, Alexandria, in the Chair

A list of the newly elected officers was published in THE JOURNAL, May 4, p. 1382.

Pharyngeal Ulcer

DR. JOHN L. SCALES, Shreveport: Without the Wassermann I consider a diagnosis a matter merely of conjecture. There is nothing in the family history of my patient to justify the assumption of previous infection; the diagnosis would have rested on the judgment of the diagnostician. The results following a single injection of salvarsan were marvelous. In less than twenty-four hours the patient said that his throat felt much better; within four days he was able to eat anything he desired, and gained 5 pounds; at the end of two weeks he had gained 15 pounds, and considered himself entirely well. He received no local treatment. The ulcer was syphilitic. I have never seen a therapeutic result more prompt, striking and gratifying.

DISCUSSION

DR. WILLIAM SCHEPPEGRELL, New Orleans: In such a case, in which there is a possibility of syphilis, it is always well to give some form of specific treatment, particularly salvarsan. I remember distinctly of having a case of tonsillar infection brought to me, with ulceration of the mouth, in which the microscopist reported epithelioma. The history was negative. As the patient was a clergyman, the question of syphilitic infection was not considered very much, but in spite of this fact he was given the proper antisyphilitic treatment, with recovery.

DR. OTTO JOACHIM, New Orleans: In a case of large pharyngeal ulcer, which has existed for six weeks, particularly where there is a loss of tissue, I would never omit the administration of antisyphilitic treatment in some form or another.

The Prevention of Deafness

DR. WILLIAM SCHEPPEGRELL, New Orleans: A large number of cases of deafness arise in childhood, although the results may not be apparent for many years afterward. Scarlet fever and measles are especially likely to affect the middle ear and cause deafness. The neglect of proper examination and treatment at this time may result in conditions which will impair the hearing for life. The prevention of deafness by maintaining a normal condition of the middle ear really means the establishment and maintenance of a healthy condition of the nose and throat. So intimately is the middle ear associated with these parts that it is rare to find a nose or throat diseased for any considerable time in which an abnormal condition of the ear and a consequent defect of hearing has not developed. The most common cause of deafness in adult life is sclerotic otitis media, the so-called dry catarrh of the middle ear. Pain is very rarely present in this disease, and head noises do not usually develop until a late stage. It is insidious in its development, and so gradual is the loss of hearing

that months and even years pass before the patient is aware that he is losing his hearing. Every safeguard should be placed around this valuable sense, and not only should early symptoms of ear disease be given careful attention, but also affections of the nose and throat on account of their influence on the organ of hearing.

DISCUSSION

DR. OTTO JOACHIM, New Orleans: When a child is affected with whooping-cough, or with scarlet fever, ear trouble may be a complication, and careful attention should be given to the ears and to the nose. Both of these organs should be kept free, so that severe and far-reaching complications can be prevented. We know that in other complications in connection with diseases of children careful attention given to the ear may prevent much harm to the ears and prevent much of the deaf-mutism which we see in children after the diseases mentioned.

The Importance of Prompt Recognition and Treatment of Laryngeal Diphtheria

DR. G. C. CHANDLER, Shreveport: In laryngeal cases, do not wait to give antitoxin until you are absolutely sure that the patient has diphtheria. Give it and make cultures and microscopic examinations later. It is never too late to intubate or to perform tracheotomy. Never let the patient smother to death. Every country practitioner should always have on hand one or more packages of antitoxin. He is certain to need it some time. Where there is gradual increase of obstruction in respiration, unless the cause is clear, give antitoxin. Do not be misled by the apparent improvement during the relaxation following the struggle from a spasmodic increase of the obstruction. Remember, the membrane is still there and will steadily increase until, in 95 per cent. or more of cases, the patient will die unless antitoxin is used. Do not mistake the absence of retraction of the abdomen, and the easy movement of the chest accompanying the exhaustion following the desperate effort for an improvement in respiration. Put the ear on the chest and ascertain if the air is entering the lungs.

DISCUSSION

DR. ARTHUR I. WEIL, New Orleans: One condition which is most apt to be mistaken for laryngeal diphtheria is probably the anomalous condition of catarrhal or spasmodic croup. We have seen children who were attacked suddenly in the middle of the night with marked dyspnea, and the question comes up, is this true diphtheria of the larynx, or is it a catarrhal or spasmodic condition? When this condition occurs suddenly, we are apt to consider the case to be one of catarrhal croup so-called, that is, there is edema or inflammation of the larynx. Catarrhal croup has a tendency to be worse at night and to get better the next morning. If the child shows marked improvement, it is safe to wait a little for developments before administering antitoxin.

DR. WILLIAM SCHEPPEGRELL, New Orleans: I agree with Dr. Chandler that if antitoxin is given within the first twelve hours in a case of diphtheria, we will rarely have to resort to intubation. Quite recently I was called to see a case in which a physician had made a probable diagnosis of diphtheria, but as there was some doubt about the case, and in order to be on the side of safety, he requested me to see the case with him. I did so, and in examining the larynx I at once saw a white patch. We gave antitoxin at once, and in the meantime had a culture made. The next morning a report came in that the culture was positive, but the patient in the meantime was convalescing. We have a great advantage in doing intubation, in that we have no difficulty in persuading the parents to allow us to do it.

Recurrent Vomiting

DR. J. A. STORCK, New Orleans: Recurrent vomiting is not infrequent. I have seen twenty cases in the past thirty months. The ages ranged from 28 months to 14 years. The greatest number of cases (fourteen) occurred between the ages of 4 and 11 years, four occurring above and two under this period. Nervous phenomena were well marked in sixteen of the cases, ten of which were in girls. All except four of the cases were from so-called neurotic families, one or both of the parents coming under this designation. In two of the older children, the aura of epilepay occurred at times. Among the neurotic cases family histories of joint-involvement were obtained, called by some rheumatism. I want to emphasize two main points, namely, first, the use of an alkali in the treatment, especially bicarbonate of sodium, and, second, the presence of diacetic and oxybutyric acids and acetone in the urine in a large number of these cases. While I do not think that these substances account for all cases, still their presence is a strong point in diagnosis. The disease is probably due to some fault in digestion or metabolism.

Abdominal Cesarean Section in Eclampsia and Central Placenta Prævia

DR. ESPY M. WILLIAMS, Patterson: I wish to report two cases, one of eclampsia, in which the child was delivered by abdominal section; the other a case of placenta prævia, in which delivery was likewise accomplished by abdominal section. Vaginal cesarean section opens the cervix quickly, but the child must subsequently be either turned or delivered with forceps. If there is slight pelvic contraction, and the life of the child be rightfully considered, then in addition to vaginal section a pubiotomy or symphyseotomy must be done, which is additionally prejudicial to the mother. In the classical cesarean section the danger to the mother is far less than in high forceps or version. There is greater possibility of obtaining and maintaining asepsis, and the morbidity is consequently less. To the child, there is less danger in delivery by this method than lies in normal labor. I believe that the abdominal route is the ideal one in all cases in which convulsions begin shortly before term, with a viable child, with cervix not obliterated, labor not begun, and no previous attempts at delivery made. Delivery by cesarean section is advantageous because, first, it is more rapidly done, and is attended with less shock and the giving of less anesthetic; second, the opportunities for asepsis are greater; third, hemorrhage can be as well controlled, and perhaps better so, since the uterus may be removed, if necessary, after a reasonable attempt at hemostasis has failed. The majority of cases of placenta prævia will not be amenable to this method of treatment.

Diagnosis of Aneurysm of the Thoracic Aorta

DR. ISAAC I. LEMANN, New Orleans: Thoracic aneurysm is much more common than is usually thought. Percussion of the space at the base of the heart should be included in the routine percussion of the heart outlines. Percussion is of all the methods of physical examination the one that gives the earliest information of the mediastinal changes. Fluoroscopy and skiagraphy should be practiced in all cases showing auspicious phenomena. Pains in the precordial region, intercostal neuralgia and arm pains should cause us to examine the mediastinum most carefully. The pains may be referred pains. The neuralgias may be pressure neuralgias.

The Determination of the Functional Activity of the Liver as Indicated by the Presence of Urobilinogen in the Urine

DR. ALLEN EUSTICE, New Orleans: The presence of the aldehyd reaction in the urine denotes lack of liver function, cirrhosis, carcinoma, etc., the degree of loss of function being denoted by the intensity of the reaction. In a case of icterus, in which there has been an absence of the aldehyd reaction, this suddenly reappears, which denotes reappearance of bile in the intestines, or the overcoming of the obstruction. In cases of diagnosed cholelithiasis, in which for some reason operation is deferred, and in which the aldehyd reaction has been present, but has disappeared and persists negatively for several days, immediate operation is indicated to avoid rupture of the gall-bladder.

Mastitis

DR. ROBERT A. STRONG, New Orleans: In the treatment of mastitis the best method is undoubtedly the use of Bier's suction apparatus, which relieves pain, hyperemia, removes the milk, and soon softens the glands. In addition, the cosmetic effect is far better than incisions, which leave cicatrices. The best method of procedure is that which is advocated by Sigmund Strassmy, who applies the cup three or four times a

V. 58
1912

day, for twenty to thirty minutes, and suggests that the air be let in every five minutes and the suction renewed. Hartman advocates the cups and emphasizes that the bell should embrace the whole gland. This method gives the best results in the clinic of Bardenheuer.

Paratyphoid Cholecystitis; Report of a Case

DR. J. B. GUTHRIE, New Orleans: This is the only case, so far as I can learn from a search of the literature, diagnosed as acute paratyphoid cholecystitis, which went on to recovery without operation. I believe there are many more such cases, and their existence should be borne in mind when the question of deciding on operation arises. I believe that we are safe in postponing operation indefinitely, if the fever, tenderness and rigidity disappear, and if no subsequent digestive or other symptoms result, or the patient is not a carrier. This is in opposition to the opinion of some pathologists, that there is no such thing as spontaneous recovery of a gall-bladder infection with the bacillus of typhoid or kindred organisms.

Essential Hematuria

DR. A. NELKEN, New Orleans: Decapsulation is often efficient. Most operators combine fixation of the kidneys with decapsulation when operating for hematuria complicating nephritis. The operation of choice in undiagnosed bleeding from the kidney is polar section, preferably through Broedel's line. This operation gives an opportunity for careful examination of the kidney and the kidney pelvis, and nephrectomy can be done if the indications are clear. The chief objection to splitting the kidney is the danger of secondary hemorrhage. We know that this is not infrequent after operation for stone, and it has happened following exploratory section. When this occurs, nephrectomy is usually necessary. Removal of the kidney should rarely, if ever, be undertaken as a primary operation, and should be reserved for those cases in which simpler measures have failed to stop a hematuria which endangers life. The operation should never be undertaken until a careful test of kidney function has satisfied the surgeon that the remaining kidney is probably able to carry out the demands of renal excretion.

Comparative Value of Abdominal and Vaginal Examination in the Diagnosis of Fetal Presentation and Position

DR. W. D. PHILLIPS, New Orleans: The diagnosis of fetal presentation and position constitutes an important part of obstetric work to-day and should always, if possible, be made before labor begins. The more common means of accomplishing this may be classed as follows: (1) abdominal examination, which includes abdominal palpation and auscultation; (2) vaginal examination; and (3) combined abdominal and vaginal examination. How shall we determine the probable time at which delivery will take place? The extent of engagement can be determined by deep abdominal palpation, and the following facts will also assist in determining this: (1) whether or not the woman is a primipara or multipara; (2) the character, intensity and duration of the pains; (3) the bulging of the perineum as seen during a pain, and also the pressure symptoms on the bladder and rectum might be taken as an indication of delivery. I would urge the more general use of abdominal examination for the diagnosis of fetal position and presentation, believing it to be more safe, and in the majority of cases for practical purposes more satisfactory.

Intravenous Ether Anesthesia

DR. E. L. SANDERSON, Shreveport: I used this method of anesthesia in twelve cases. My experience with the method is too brief to venture an opinion as to its safety, but with proper care in carrying out the details there should be no more danger than that met with in the open-cone method. It requires more skill and care, and the attention of two anesthetists. The raising of the vein is annoying to nervous patients. Anesthesia is produced with great ease and rapidity. Some of the patients fall asleep without a murmur and breathe and look like one in natural sleep. There is seldom any stage of excitement, and bronchorrhea and nausea are practically eliminated if the solution is not oversaturated. There is an increase of blood-pressure in patients who have a subnormal pressure. But even when almost a gallon has been given there is no perceptible rise of blood-pressure. Post-anesthetic vomiting has not been seen in our cases in which the details were right. Cases in which a supersaturated solution was used showed about the same symptoms observed in cases of open-cone anesthesia.

Intramuscular Injections of Mercury in the Treatment of Syphilis of the Nervous System

DR. L. L. CAZENAVETTE, New Orleans: The advantages of this method over other methods of administering mercury are such that in cases of syphilis, when it is desired to produce prompt action on the existing lesions, this method should be given the preference. The chief advantages are: 1. The treatment is entirely in the hands of the physician. 2. The amount of mercury administered is small, the dosage small. Salivation is infrequent, and the amount absorbed into the system is definite. 3. There is no liability to disturbances of the alimentary canal.

Surgical Treatment of Puerperal Infection

DR. C. JEFF MILLER, New Orleans: Investigation has established several valuable points: 1. Septic thrombophlebitis occurs oftener than was formerly suspected. 2. The mortality can be fairly estimated to be between 80 and 100 per cent. when patients are treated expectantly. 3. In several cases the process has been arrested by ligation of the involved veins. 4. In chronic cases the diagnosis can be made with a fair degree of certainty. 5. Pyemic cases stand operative measures surprisingly well. 6. The cases of pure septic thrombophlebitis treated surgically have shown a satisfactory reduction in mortality. 7. In acute pyemia the mortality has not been influenced by operation, but in chronic cases the results are now hopeful. It will require a large number of cases and careful discrimination to establish the true value of surgery in puerperal pyemia.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Journal of Indiana State Medical Association, Fort Wayne

April 15, V, No. 4, pp. 153-194

1 Symptoms and Diagnosis of Ptosis of Organs of Upper Abdominal Zone. C. R. Sowder, Indianapolis.
2 Pulmonary Thrombosis Following Surgical Operations. B. Van Sweringen, Fort Wayne.
3 Typhoid Perforation and Its Surgical Treatment. G. G. Gnessle, Seymour.
4 Cause of Hypertrophied Prostate. F. R. Charlton, Indianapolis.
5 *Criminal Insane. P. E. Bowers, Michigan City.

5. Criminal Insane.—After a careful review of the subject, Bowers arrives at the conclusion that the true criminal is a degenerate; so defective in his physical and mental make-up that he falls in a class below the normal man in his reversion to type. He is out of harmony with the existing times and is unable to adjust himself to modern conditions, because of his defective organization. When this type of individual comes in conflict with the law and is subject to confinement he exhibits his organic and inherent defects, and active insanity is oftentimes developed. A startling per cent. of this type is apt to be found in any prison population. In the Indiana State Prison, whose population is 1,080, approximately 135 are insane. Bowers urges that a hospital for the insane should be a part of the equipment of every large penal institution. In the hospital for the criminal insane the following persons should be cared for: those criminals who become insane while serving sentences in prison; those persons whose acts are violations of the law of peace and safety, but are acquitted on the grounds of insanity; and those persons confined in ordinary psychopathic hospitals who commit dangerous acts. The law governing the commitment of persons to a hospital for the criminal insane should be so constructed that its constitutionality cannot be questioned. It should be so drawn that while the individual

will receive all due protection, society shall also be protected from the person mentally responsible but who seeks to evade the responsibity of criminal acts by a plea of insanity.

Military Surgeon, Washington

April, XXX, No. 4, pp. 369-484

6 Medical Department of Army in Civil War. Battle of the Wilderness. L. C. Duncan.
7 Constabulary vs. National Guard. R. W. Montellus, Pa. N. G.
8 Venereal Prophylaxis. D. C. Howard, U. S. Army.
9 Report of U. S. Army Board for Study of Tropical Diseases as They Exist in Philippine Islands, Quarter Ending June 30, 1911. W. P. Chamberlain, E. B. Vedder and J. R. Barber, U. S. Army.

Virginia Medical Semi-Monthly, Richmond

April 26, XVII, No. 2, pp. 29-52

10 Hydrophobia in Man. G. T. Vaughan, Washington, D. C.
11 *Splanchnoptosis of Viscera of Chest and Abdomen. H. E. Jones, Roanoke.
12 Treatment of Shock Due to Hemorrhage. G. W. Norman, Pomona, N. C.
13 Exophthalmic Goiter. W. F. M. Sowers, Washington, D. C.

11. **Splanchnoptosis of Viscera of Chest and Abdomen.**—Jones puts on record a case of splanchnoptosis of the viscera of the chest. The chest was asymmetrical and flat; the supraclavicular fossae were very deep, unusually so, and would hold about half a cup of water; interspaces between the first, second, third and fourth ribs were very distinct. Low down on right anterior aspect of chest over region of liver the chest was markedly flattened. There was resonance on percussion over the entire area, without normal dulness; in fact, over the upper portion of chest and low down on right side over the hepatic region there was hyperresonance. On auscultation there were no abnormal sounds, no râles except that from the third rib up the respiratory sounds were very indistinct; neither were there evidences of bronchitis or tuberculosis, though the patient's general appearance indicated the latter condition. By ordinary physical examination the heart was found to be abnormally low, but the sound showed no irregular action; rhythm regular, force decreased, no murmurs, no edema, cyanosis or dyspnea; respiration, when quiet, fifteen. The only chest symptoms present were pains over front of chest, radiating upward and outward to shoulders and down the arms to elbows. Abdominal symptoms were those of dyapepsia, slight pains with dragging, heavy feeling. Patient had some pain in small of back. He was nervous, depressed and could not sleep more than three or four hours a night unless he was given a hypnotic.

The radiograph showed entire absence of lung tissue on both sides as low as the lower edge of the third rib. The arch of the aorta was displaced to the left, its upper border being on a line with the lower border of the third rib. The heart was almost central, its center being immediately beneath the ensiform appendix. The anterior attachment of the diaphragm was on a line with the vertebral attachment of the twelfth rib. The upper margin of the liver was only about 2 inches above the umbilicus. The stomach, almost vertically placed, was to the left, and its upper edge about 1 inch above the umbilicus. The pyloric end was behind the pubic arch. The colon was coiled in irregular folds deep in the pelvis.

Journal of Iowa State Medical Society, Clinton

April 15, I, No. 10, pp. 525-588

14 *Dysmenorrhea and Some Popular Errors Pertaining to It. C. F. Wahrer, Fort Madison.
15 Prognosis of Some Eye Cases. G. F. Harkness, Davenport.
16 Atropia in Delayed Labor from Rigid Cervix. E. H. King, Muscatine.

14. Abstracted in THE JOURNAL, July 29, 1911, p. 420.

Journal of Kansas Medical Society, Kansas City

April, XII, No. 4, pp. 121-166

17 Importance of Laboratory Diagnosis. H. M. Conner, Topeka.
18 Measles. L. A. Clary, Elbing.
19 Errors of Refraction Causing Neurasthenia and Epilepsy. C. P. Johnson, Coffeyville.
20 Scarlet Fever. W. L. Welsh, Hazelton.
21 Dietetic Treatment of Chronic Interstitial Nephritis. P. B. Matz.

Archives of Pediatrics, New York

April, XXIX, No. 4, pp. 241-319

22 Is There Any Valid Objection to Vaccination? C. W. Banks, East Orange, N. J.
23 *Contact Infection in Contagious Diseases. B. Van D. Hedges, Plainfield, N. J.
24 Prevention of Commoner Contagious Diseases of Infancy and Childhood. R. S. Haynes, New York.
25 *Duty of Community to Its Backward and Defective Children. I. T. Smart, New York.
26 Outdoor Life for City Children. W. L. Carr, New York.
27 Diagnosis of Atypical Scarlet Fever. D. J. M. Miller, Atlantic City, N. J.
28 *Rumpell-Leede Phenomenon of Scarlet Fever. M. Michael, Chicago.
29 *What New Jersey is Doing for the Epileptic. D. F. Weeks, Skillman, N. J.

23. **Contact Infection in Contagious Diseases.**—While admitting the possibility of infection from fomites and air in certain isolated cases, Hedges claims that the danger is far less than is commonly supposed. Contact infection and the danger to the community from "missed" and "carrier" cases he regards as the most potent factors in the spread of these diseases. The danger incurred by the physician or attendant in transferring the disease to others is reduced to a minimum—by observing the simple laws of personal cleanliness, by scrupulously cleansing the hands and nails after contact with these patients.

25. **Backward and Defective Children.**—After considering the child of defective mentality Smart sums up the duty of the community as follows: 1. The gaining of personal information concerning the approximate number of aments in city, county and state. 2. To endeavor to use present laws in so far as they cover the problem. 3. To seek to obtain further legislation which will more effectually deal with the needs in caring for these afflicted children. 4. To demand that it shall be unlawful to issue a marriage permit to any person or persons who have at any time been declared to be mentally defective, or, when such evidence does not exist, and there is any doubt about the mental habits of either of the contracting parties, a certificate of mental fitness to be produced from a reputable physician in good standing.

28. **Rumpell-Leede Phenomenon of Scarlet Fever.**—This phenomenon consists of hemorrhages in scarlet fever which can be produced into the skin of the elbow by application on the arm of a Bier's stasis bandage. It is claimed that the longer the disease is established the slighter is the tendency to hemorrhages, so that during the third week a pressure of 50-60 mm. is necessary to cause them, and then only after being applied fifteen minutes. Two series of tests were made by Michael. In the first, 100 children, forty-eight boys and fifty-two girls, were examined. They varied in age from 4½ to 14 years. In this group, pressure was exerted with an ordinary muslin bandage. The Bier stasis bandage, as suggested by Leede, was tried, but it was found that pressure could be better regulated with the muslin one. This was placed half way up the arm, drawn tight enough to produce a decided blue discoloration of the forearm and was left in place from three to eight minutes. At the end of this time, in ninety-eight of the children petechiæ appeared on the anterior surface of the elbow joint. Sometimes it was necessary to repeat the experiment a number of times before positive results were obtained. This happened more frequently at the beginning of the tests than later, when practice was gained in the amount of pressure to be exerted. The picture produced was a fairly constant one. The space between the lower edge of the bandage, and sometimes even beneath the bandage of the lower border of the anterior surface of the elbow, was dotted with hemorrhagic spots, varying in size from a pin-point to a small split pea. In some instances there were but two or three, in others the spots were too numerous to count. They could be more plainly seen after the bandage had been removed and when the skin was held taut for a second or two. They appeared quite suddenly, usually all at once. Some of the children complained of pain just before the hemorrhages appeared. They faded gradually in twenty-four to forty-eight hours. Boys reacted more readily than girls. Age made no difference; older children reacted as readily as the younger ones.

In the second group of children the same amount of pressure was exerted as Leede used in his scarlet fever patients, namely, 60 mm. pressure. The arm band of the Riva-Rocci blood-pressure apparatus was adjusted. The pressure raised to 60 mm. and kept at this height for ten minutes. In order to compare results, the same children as in the first group were examined. Of the fifty tested, thirty-two, or 60 per cent.,

gave positive findings. In this group, however, the number of hemorrhages were fewer and their size smaller. Two or three pin-point petechiæ were the usual findings, though in a few instances they were rather numerous. From this study Michael concludes that hemorrhages can be produced into the anterior surface of the elbow joint in practically all normal children by applying sufficient pressure around the arm. Therefore a positive Rumpell-Leede phenomenon cannot be regarded as a diagnostic sign of scarlet fever.

29. **What New Jersey is Doing for the Epileptic.**—Weeks' discussion of this subject shows that the State of New Jersey is providing a home where the epileptic may earn part of his maintenance and be protected, as far as possible, from accidents incident to his disease; a place where he may have hospital care, daily medical advice, dental treatment, education, amusement, recreation and religious service, together with the investigation of his heredity and the psychologic study of his disease; thus relieving the family, friends and society of the dread and danger of his presence.

Laryngoscope, St. Louis

March, XXII, No. 3, pp. 165-296

30 Lymphatics of Nose and Nasopharynx with Consideration of General Lymphatic System. H. J. Hartz, Detroit, Mich.
31 Lymphatic Apparatus of Nose and Nasopharynx in Its Relations to Rest of Body. C. Poli, Genoa, Italy.
32 Idem. A. L. Turner, Edinburgh.
33 Idem. J. Broeckaert, Ghent, Belgium.
34 Model Reconstructing Canals of Right and Left Labyrinths. E. R. Lewis, Dubuque, Iowa.
35 After-Treatment of Radical Mastoid Operation, with Special Reference to Subject of Packing. W. C. Phillips, New York.

Pennsylvania Medical Journal, Athens

April, XV, No. 7, pp. 513-596

36 *Ocular Symptoms of Hypophysis Disease and the Results of Treatment. G. E. deSchweinitz, Philadelphia.
37 Early Diagnosis of Cancer. W. L. Rodman, Philadelphia.
38 Salvarsan in Treatment of Syphilis. J. Daland, Philadelphia.
39 Small Round-Cell Myosarcoma of Orbit, with Extension into Eyeball. W. C. Posey, Philadelphia.
40 Indications for Operation in Suppurative Diseases of Labyrinth. S. M. Smith, Philadelphia.
41 Technic and Results of Operation on Labyrinth. E. W. Day, Pittsburgh.
42 *Chronic Appendicitis and Lane's Kink. W. Davis, Wilkes-Barre.
43 Home Laboratory Work for Physicians. J. G. Wilson, Montrose.

36. **Ocular Symptoms of Hypophysis Disease.**—The following cases are reported by De Schweinitz: Case 1. Tumor of the pituitary body; complete blindness lasting twelve days in the right eye and six weeks in the left; complete restoration of vision of the right eye and nearly complete restoration of the vision of the left eye under the influence of large doses of thyroid extract associated with inunctions of mercury. Case 2. Moderate choked disk with complete blindness of the right eye lasting one week and partial blindness of the left eye with loss of nasal field; complete restoration of visual functions under the influence of the administration of thyroid extract associated with inunctions of mercury. Case 3. Bitemporal hemianopsia with contraction of the preserved fields and an area of faint preservation of light perception in the center of the dark area of the right temporal field; partial optic nerve atrophy.

42. **Chronic Appendicitis and Lane's Kink.**—When marked constipation, gas troubles in the small intestines and colicky pain in the right lower quadrant are prominent symptoms Davis would beware of the diagnosis of chronic appendicitis. He examines most carefully for signs of splanchnoptosis and if present adopts thorough dietetic, mechanical and medical treatment. There is no immediate necessity for operation. If these symptoms are present, no matter for what cause the abdomen is opened, he examines the ileum for Lane's kink.

American Journal of Urology, New York

April, VIII, No. 4, pp. 171-228

44 Experimental Study of Effects of Ureteral Obstruction on Kidney Function and Structure. E. Beer, New York.
45 Urolithiasis; Etiology and Chemistry. F. E. Sondern, New York.
46 Diagnosis of Urolithiasis. H. G. Bugbee, New York.
47 Surgery of Urolithiasis. J. B. Squier, New York.
48 Sexual Neurasthenia. N. P. Bathbun, Brooklyn.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

April, XIV, No. 4, pp. 265-283

49 General Anesthesia, with Reference to Local Anesthesia in Major Surgical Operations. F. Martin, Baltimore.
50 Treatment of Inebriates. T. R. Crothers, Hartford, Conn.
51 Dilatation of Aorta. A. G. Brown, Richmond, Va.
52 Some Commoner Gynecologic and Obstetric Conditions. F. W. Griffith, Asheville, N. C.

Northwest Medicine, Seattle, Wash.

April, IV, No. 4, pp. 101-132

53 *Congenital Dislocation of Hip. F. J. Fassett, Seattle, Wash.
54 Derangement of Knee Joint. C. F. Elkenbary, Spokane, Wash.
55 Diagnosis of Brain Tumor. W. House, Portland, Ore.
56 Surgery of Urolithiasis. G. S. Whiteside, Portland, Ore.
57 Infections of Maxillary Antrum and Appliance for Drainage. H. VanCott, Salt Lake City, Utah.
58 Eye-Strain Among Public School Children. E. Bates, Ogden, Utah.
59 Roentgen-Ray Diagnosis of Urinary Calculi. R. C. Walker, Portland, Ore.

53. **Dislocation of Hip.**—Of two patients operated on by Fassett a the age of 11½ neither showed any substantial improvement. Of two patients operated on at the age of [illegible] years, one gave a very easy reduction and a permanent cure, and the other a very difficult reduction and a marked improvement following the first operation, but was operated on again and is still in plaster. Of the five operated on at the age of 4 and under, none showed any especial difficulty in reduction. Two appear to be permanent cures; one was so improved that the parents believed the reduction to be real and two are still in plaster. An operation at the age of 11 years and one at 6 years called for the use of great force and were followed by considerable surgical shock. The reduction at the age of 3 or 4 years was easily accomplished with little shock. But the shock was the least, the reduction was the easiest of all and the radiograph shows a practically normal development of the bones in the case operated on when the child was less than 2 years old. From these facts Fassett concludes that the results are best if the operation can be done in infancy and that the gravity of the operation is much less at that time. Therefore, of whatever credit accrues to the medical attendants in such a case, no small share belongs to the family physician who makes an early diagnosis, or brings about an early examination.

Canadian Medical Association Journal, Toronto

April, II, No. 4, pp. 269-364

60 Establishment of Treponema Pallidum as Causative Agent of Syphilis and Cultural Differentiation Between This Organism and Certain Morphologically Allied Spirochetes. H. Noguchi, New York.
61 Salvarsan; a Year's Experience. R. P. Campbell and F. S. Patch, Montreal.
62 Clinical and Pathologic Notes on Certain Subtropical Diseases. F. B. Gurd, Montreal.
63 Physiologic Aspects of Referred Pain. D. F. Harris.
64 Intraperitoneal Route in Operations on Ureters. R. E. McKechnie, Vancouver.
65 Gastric Carcinoma. W. J. Macdonald, St. Catharines.

Illinois Medical Journal, Springfield

April, XXI, No. 4, pp. 399-536

66 Prevention of Blindness and Conservation of Vision. T. A. Woodruff, Chicago.
67 Dangerous Infections of Eye. W. H. Wilder, Chicago.
68 Conservation of School Children's Eyes. F. Allport, Chicago.
69 Illumination and Vision. J. R. Cravath, Chicago.
70 Prevention of Blindness. W. O. Nance, Chicago.
71 Prevention of Injuries to Eyes in Steel Mills. R. J. Young, Chicago.
72 Cost of Preventable Blindness to Nation. H. Cohen, Chicago.
73 Midwives and Blindness. C. Hedger, Chicago.
74 *Immunity in and Specific Treatment of Pneumonia. E. C. Rosenow, Chicago.
75 *General Management of Pneumonia. R. H. Babcock, Chicago.
76 Diseases of Heart and Blood-Vessels. J. Y. McCullough, Casey.
77 Ingrowing Nails; Etiology and Treatment. F. S. Lower, Chicago.
78 Diagnostic and Therapeutic Uses of Gonococcus Vaccine (Bacterin) and Antigonococcic Serum. V. D. Lespinasse, Chicago.
79 *Treatment of Fractures with Lane's Plates. W. Bartlett, St. Louis.
80 Demonstration of Method of Manufacturing Sera and Vaccines. P. McKenzie, Chicago.
81 *Do Autogenous Vaccines Mitigate Distressing Symptoms of Pulmonary Tuberculosis? C. W. Leigh and L. J. Tint, Chicago.
82 Histologic Pathology of Tonsils Requiring Removal. J. C. Beck, Chicago.
83 *Nature of Wassermann Reaction. F. Baumann, Chicago.

74. **Bacterins in Pneumonia.**—Rosenow has succeeded in separating from virulent pneumococci a large part of the toxic material which goes into solution on autolysis and have left in the pneumococci that part which stimulates antibody formation more promptly and more energetically without first producing a negative phase. The number of "detoxicated" or autolysed pneumococci inoculated can now be much greater than those merely killed by heat. When this material is inoculated within forty-eight hours after the onset of an attack of lobar pneumonia the course of the disease is often seemingly much modified. The temperature comes down within twenty-four or thirty-six hours and the patient recovers promptly; when given later, as would be expected, the effect is less pronounced. In a series of cases at the Cook County Hospital last winter, fifty treated and fifty alternate untreated cases, used as a control, the mortality of the former was 32 per cent., while in the latter it was 50 per cent.

75. **Management of Pneumonia.**—Nitroglycerin or other nitrite preparations, Babcock says, should never be ordered as a routine practice. The effect of pneumococcus poisoning on blood-pressure seems to vary in different cases. Consequently the sphygmomanometer should be used daily if possible and the use of vasodilators and heart tonics governed by the readings of the instrument. Should cyanosis become unusually pronounced and according to the experiments of Romberg and Paesler indicate threatening capillary paresis from the toxic effect of the poison on the vasomotor center in the cord, then vasodilators are distinctly contraindicated and adrenalin or cardiac stimulants, as digitalis, are to be used and used freely. This indication Babcock believes is especially urgent if Gibson's danger sign is present, namely, a pulse-rate whose figures are higher than those of the blood-pressure. Death may not supervene in all such instances, but this condition calls for prompt and vigorous treatment. Pain is in some cases so distressing as to demand special measures for its mitigation lest it rob the patient of rest and augment his exhaustion.

When local applications do not relieve, Babcock does not hesitate to administer a hypodermic of morphin since, unless plainly contra-indicated by diffuse bronchitis it is likely to do far more good than harm. Insomnia is another symptom which in some instances is so persistent as to constitute a veritable complication of evil influences in prognosis. It is Babcock's conviction, therefore, that an opiate, by preference a hypodermic of morphin, not only induces sleep but exerts a salutary and calmative influence on the nervous system and thus favorably affects the course of the pneumonia. When insomnia is due to fever it is rational to endeavor to induce sleep by reducing the temperature.

Tympanites is another symptom that at times proves a very serious complication. Occasionally meteorism is a manifestation and result of toxic paresis of the intestines and is a formidable condition. In some instances it resists all attempts at its relief, but Babcock recommends, so soon as this form of tympanites is suspected, the use of an enema of asafetida made by rubbing up 75 grains of the drugs in 3 ounces of yolk of eggs. This emulsion thrown high up into the colon often acts as a powerful stimulus to contraction of the bowel. In addition to the injection of the emulsion of asafetida, heat to the surface and a drink of hot coffee, hypodermics of musk and, perhaps, of camphor are highly serviceable. So great is his faith also in musk as a cardiac stimulant that he always keeps it in reserve in cases of pneumonia.

The formula for its preparation is as follows: Good Tontine musk, 1 gm., benzoate of sodium 0.5 gm. and distilled water 15 c.c., of which the dose is 15 to 30 minims (1 to 2 grains of the musk) injected beneath the skin. In urgent cases this remedy is injected hourly and in Babcock's hands has proved a powerful cardiac stimulant. He does not approve of nitroglycerin in this condition or of whisky or brandy on account of their high alcoholic content, since arterial tension is already low and what is needed is a remedy that acts directly as a cardiac stimulant instead of indirectly through relaxation of the vascular system.

79. **Lane's Plates for Fractures.**—The number of plates in which secondary removal was necessitated, forces Bartlett to the conclusion that smaller and lighter plates must be used if a tissue tolerance to them is to be cultivated. However, removal of a plate is a matter of comparatively slight significance when restoration of anatomic and functional perfection are considered. He has not had to remove wires, nails or plates where aseptic healing had been effected. Nothing short of absolutely perfect approximation in his opinion justifies an open operation for fracture. By this is meant a union so exact that no fracture line can be seen by spectators a few feet away from the field. An ideal result is possible even when Lane's plates are used in the presence of pus, as shown by one case.

81. **Autogenous Vaccines and Pulmonary Tuberculosis.**—The authors noted that the reactive symptoms after the injection of the vaccine were local hyperemia and tenderness at the place of injection, the symptoms being greatly relieved by the application of hot compresses. The latter also prevented the persistence of the hard, indurated nodules which are common after bacterin injection. Not only was local pain persistent in places where the local lesions were in progress, but tenderness was elicited in areas of a former pleuritis. In a few days the cough became productive, the mucopurulent expectoration was replaced by a serous-like material which was expectorated with ease. Respirations, which were labored and wheezy, grew easier and gradually became normal. The patients were able to rest comfortably, night sweats ceased, appetite improved, and gain in weight was noticed. Cases with marked exhaustion showed no reactive symptoms until one or two days after the first injection, or only after the second or third injection. In far-advanced cases with cavity formation, the distressing symptoms did not entirely cease, but some relief followed. The intervals between the coughing spells were prolonged and expectoration was easier. They were able to rest for longer periods without the use of narcotics, or the use of the various expectorants. With cessation of digestive disturbances the appetite greatly improved.

83. **Wassermann Reaction.**—Baumann believes that the complement is a ferment and not a substance that can be bound by an "amboceptor," as Ehrlich and Wassermann contend. His reasons for this conclusion are: 1. Complement is destroyed at a temperature at which we would expect a ferment to perish. 2. He found accidentally that the activity of an amboceptor could be increased by adding a slight amount of acid. It, therefore, occurred to him that there might be some analogy of action between rennet, pepsin and complement. The former two can be activated by hydrochloric acid. He found that a dilution of 1:20,000 hydrochloric acid in physiologic salt solution would not have any hemolytic action itself, but would activate complement, and could be used in the hemolytic system instead of an "amboceptor." 3. The activity of the complement in a given solution of sensitized antigen does not depend on its absolute quantity as it would have to if Ehrlich's side-chain theory were applicable to this reaction. The amount of complement needed to perform the reaction and the amount of complement actually used up are not the same; the amount varies according to temperature, and the length of time needed for the reaction. The percentage of complement used is larger in slow reaction, taking place at relatively high temperature, than in a quick reaction, taking place at relatively low temperatures. 5. Other conditions being the same, the activity of complement depends on the concentration and not on its absolute amount present. Complement, therefore, acts according to its concentration, like ferment, such as rennet, used in the making of cheese, but not like a substance that is bound in certain definite proportions by a second substance. 6. Every other factor being constant, two units of a patient's serum do in their reaction with antigen destroy less complement than one unit does. This fact, again, is entirely contrary to what we would have to expect if the relation of factors entering this reaction were quantitative. 7. Complement will not be deviated in a mixture of syphilitic serum and lipoid substances if the latter have been heated for a certain length of time above 70 C. 8. The degree of activity of guinea-pig's blood as a complement can be reduced to one-half of its original value within a week if the hygiene and sanitary condition of the animal are changed for the worse; this speaks more for it being a ferment than a simple chemical body.

V. 58
1912

Journal of Oklahoma State Medical Association, Muskogee

May, IV, No. 12, pp. 485-536

84 Typhoid. W. L. Capshaw, Norman.
85 Etiology, Pathology and Treatment of Infantile Paralysis. L. E. Andrews, Oklahoma City.
86 Practical Obstetrics in Country Practice. F. R. Wheeler, Manford.
87 Treatment of Meningitis. A. C. Hirshfield, Norman.
88 Serotherapy of Cerebrospinal Meningitis. S. H. Landrum, Olustee.
89 Treatment of Morphinism by Lambert Method. G. W. Robinson, Kansas City, Mo.
90 Vestibular Nystagmus. E. F. Davis, Oklahoma City.
91 Unprofessional Conduct, License Revoked, Precedents to be Established. T. A. Blaylock.
92 Primary Metastatic Carcinoma of Omentum Following That of Breast. C. N. Ballard, Oklahoma City.

Denver Medical Times and Utah Medical Journal, Denver

April, XXXI, No. 10, pp. 399-448

93 *Ideal Charity for Dependent Tuberculous in Colorado. A. S. Taussig, Denver.
94 *Case of Splenomegaly Complicated by Pregnancy. C. A. Ferris, Denver.
95 *Some Practical Relations of Blood-Pressure in Study and Treatment of Disease. E. C. Hill, Denver.
96 Subversion of Medical Ethics. M. Anon.
97 Hereditary Criminality and Asexualization of Criminals. C. Bell.
98 History of Syphilis. C. S. Scofield, Richford, Vt.

93. Charity for Tuberculous in Colorado.—Taussig recommends a union of all bodies that come in contact with tuberculosis, a realization of the difficulties and a future plan of work; second, a personal contact with the individual consumptive, assistance that shall be carefully supervised and relief that shall not make him a constant charge.

94. Splenomegaly Complicated by Pregnancy.—Besides being pregnant and suffering from splenic anemia Ferris's patient also had rough calculi in the gall-bladder although there was not at any time any pain in that region; also a large calculus in the pelvis of the left kidney and several smaller ones scattered through the organ. The patient never complained of pain in that region, and contrary to expectation, they produced no albuminuria. Deposits in both of these viscera resembled rusty iron in appearance, and it occurred to Ferris that they might be a deposit resulting from the superabundance of iron ingested as a remedy for the anemia. When first seen, the patient, aged 28, was so anemic as to appear like a waxen image, and she was voiceless from sheer exhaustion, the result of an unsuccessful effort to carry through to term the product of her first conception. She was in labor, and, with slight assistance, was delivered of an eight months' fetus, which presented the appearance of having been dead for some time.

The subsequent history from the obstetric viewpoint was uneventful, except for irregular elevations in the temperature, which, however, proved not to be due to the local conditions. Involution occurred in about two weeks, but there was not the slightest sign of milk in the breasts. On applying the obstetrical binder, a hard mass was noticed in the left side of the abdomen, which was at first mistaken for the uterus, but on trying to move it into the median line, it was found to be an enlarged spleen, occupying the greater part of the abdomen, and extending down to the pelvic brim. Singularly enough, the patient had never discovered this tumor-like enlargement, nor known of its existence, until her attention was called to it at that time. She had been under the care of many different physicians practically all her life, and, although she was aware that any attempt to wear anything slightly close-fitting had for years made her short of breath, she had never discovered the hard mass in her side before. The patient died about a month later from exhaustion.

95. Relations of Blood-Pressure.—Therapeutic indications gained from the scientific study of blood-pressure, Hill says, are of the utmost practical value. Though it is not always feasible, or even advisable, to reduce high blood-tension to the normal limits of health, since, as in chronic interstitial nephritis, much of this hypertension is compensatory, yet we may safely act whenever subjective symptoms are prominent, and it is remarkable what great relief may be obtained from headache, vertigo, etc., by depressing the blood-pressure only a few points. To this end elimination with calomel and salines or other laxatives is nearly always in order. For direct vasodilator action sodium nitrite, in doses of ½ grain and upward, in distilled water, four times a day on an empty stomach, has served Hill's elderly patients well. Younger subjects with hypertension are often markedly benefited by the prolonged administration of tincture of aconite (10 minims or 20 drops three or four times a day), or tincture of veratrum (dose, 15 minims or about 30 drops). When hypertension accompanies dilated heart, tincture of strophanthus is generally preferable to digitalis as a cardiant. For puerperal eclampsia, morphin, chloroform, fluid extract of veratrum intramuscularly, phlebotomy if need be, and best of all, emptying the womb, are the cardinal indications.

For too low blood-pressure Hill has tried many medicines (caffein, quinin, hydrastinin, ergot, strychnin, etc.), mostly with but little curative effect. The one specific remedy in these cases is epinephrin in full doses (up to 100 grains daily if need be) or the solution of adrenalin chlorid in corresponding dosage. Other means of proved efficacy in this connection are the relief of constipation (cascara, senna, phenolphthalein, etc.), moderate exercise (not to point of fatigue), and the cool salt sponge bath every morning.

Journal of Michigan State Medical Society, Battle Creek

May, XI, No. 5, pp. 267-326

99 Erysipelas: Symptoms, Etiology and Pathology. C. E. Hooker, Grand Rapids.
100 Erysipelas. A. P. Biddle, Detroit.
101 Eclampsia. J. J. Lyons, Sault Ste. Marie.
102 Treatment of Eclampsia by Vaginal Cesarean Section. R. G. Leland, East Leroy.
103 Ectopic Gestation. I. N. Brainerd, Alma.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

April, XV, No. 4, pp. 193-256

104 Graphic Methods and Instruments in Diagnosis of Cardiac Affections. T. E. Satterthwaite, New York.
105 Action of Corpus Luteum and of Pineal Body. I. Ott and J. C. Scott, Philadelphia.
106 Causation of Psychopathic Maladies. B. Sidis, Portsmouth, N. H.
107 *Ductless Glands in Surgical Therapeutics. C. E. de M. Sajous, Philadelphia.

107. Ductless Glands in Surgical Therapeutics.—All the facts submitted are summarized by Sajous as follows: Thyroid (including parathyroid) preparations, owing to their power to increase the opsonins and enhance the germicidal and antitoxic power of the blood, are indicated in surgical diseases, septicemia, pyemia, erysipelas, etc., and in suppurative processes wherever situated, the organs of special sense included. Being endowed with the property of enhancing calcium metabolism, besides acting as stimulants of the defensive process, thyroid preparations are also indicated in diseases of the osseous system (including those due to the tubercle bacillus in the spine and hip-joint), osteomyelitis, rachitis, etc. Thyroid preparations are also indicated in those cases of larval myxedema in which convalescence after operation is slow and the tendency to infection is great, owing to inefficiency of the patient's defensive mechanism. The fact that the parathyroids are the main source of opsonins, and that the latter increase the activity of the defensive process, emphasizes the importance of always conserving these organs when removing the thyroid, or of restoring them at once after their accidental removal. The adrenals, as co-workers of the thyroid apparatus in the defensive process and in sustaining oxidation, metabolism and nutrition, seem to offer a new clue to the pathogenesis and treatment of cancer that is worthy of further inquiry. The adrenal secretion, especially when obtained from regions in which it occurs in organic combination, the stomach, the spleen and the pituitary for example, powerfully excites, as hormone, the contraction of unstriped muscular tissue. Hence the activity of the splenic hormone and pituitary body in postoperative paresis of the intestine and cardiovascular adynamia.

Colorado Medicine, Denver

April, IX, No. 4, pp. 103-128

108 Diagnostic Value of Wassermann Reaction. P. Hillkowitz, Denver.
109 The County Society. H. R. McGraw, Denver.

Lancet-Clinic, Cincinnati

April 27, CVII, No. 17, pp. 451-478

110 *Influence of Stricture of Urethra on Development of Hypertrophic Changes in Prostate. H. Cabot and G. G. Smith, Boston.

111 General Management of Tuberculosis. T. D. Coleman, Augusta, Ga.
112 Artificial Immunity to Spermatozoon of Same Species in Guinea-Pig. L. K. Hirshberg, Baltimore.

110. Abstracted in THE JOURNAL, November 4, 1911, p. 1557.

Journal of Experimental Medicine, New York

May, XV, No. 5, pp. 429-546

113 Correlation of Histologic and Chemical Changes in Spleen During Necrosis and Autolysis. H. J. Corper, Chicago.
114 *Complete Balance Studies of Nitrogen, Sulphur, Phosphorus, Calcium and Magnesium in Intestinal Infantilism. F. H. McCrudden and H. L. Fales, New York.
115 *Effect of Fat and of Carbohydrate Diets on Excretion of Creatin in Cases of Retarded Development. F. H. McCrudden, New York.
116 Pure Cultivation of Spirocheta Refringens. H. Noguchi, New York.
117 Effects on Titrations of Inequality of Sensitization of Corpuscles. C. H. Bailey, New York.
118 *Nuclease in Carcinoma. E. H. Goodman, Philadelphia.
119 Immunochemical Studies with Peptones. A. A. Epstein.
120 *Experimental Studies on Administration of Salvarsan by Mouth to Animals and Man. J. A. Kolmer and J. F. Schamberg, Philadelphia.
121 Production of Foreign Body Giant Cells in Vitro. R. A. Lambert, New York.
122 Permanent Life of Tissues Outside of Organism. A. Carrel, New York.
123 Albuminolysins and Their Relation to Precipitin Reactions. H. Zinsser, New York.

114. **Balance Studies in Intestinal Infantilism.**—In two cases of infantilism studied by the authors there was poor absorption from the intestines of nitrogen, sulphur, phosphorus, calcium and magnesium. The excretion of these elements in the urine was low. The excretion of calcium in the urine was so small as to be negligible. The excretion of calcium into the intestines was increased. The complete balance experiments showed that while other elements were retained, calcium was lost.

115. **Effect of Fat on Excretion of Creatin.**—In two cases of infantilism of the type of Herter, in one case of achondroplasia, and in one case of cretinism studied by McCrudden creatin was constantly present in the urine and was increased in amount when the ingestion of carbohydrates was increased.

118. **Nuclease in Carcinoma.**—The results of Goodman's experiments offer proof of the presence of nuclease in carcinomata. In flasks containing sodium nucleate and carcinoma juice, a greater amount of the purin bases was present than in those containing cancer juice that was allowed to autolyze without the addition of nucleic acid, and these flasks contained greater amounts of the purin bases than the flasks in which the ferments had been destroyed by boiling. Goodman infers that while the cancer is still growing in the human organism, the nuclease of the cancer is active. This is indicated by the presence of the purin bases in the flasks that contained boiled cancer juice, for the action of the ferment in the cancer was inhibited by cold immediately after the removal of the tumor from the body, and the ferment was later destroyed by heat. The purin bases in these flasks must, therefore, have been produced while the tumor was growing on its host. The nuclease continues its activities in the incubator. Having found a nuclease in carcinomatous tissue Goodman intends to search for it in the blood and urine of patients suffering from cancer, and in the gastric secretion of cases of gastric neoplasms. Should nuclease be at all concerned in the malignancy of carcinoma, he thinks injection of it into tumors should hasten their growth, and perhaps its injection into lower animals might reveal phenomena bearing on the cancer question.

120. **Administration of Salvarsan by Mouth.**—The authors found that salvarsan can be administered in pills, in capsules and in solution to lower animals in dosage of 0.02 to 0.03 of a gram per kilo of body weight, without producing toxic symptoms. A dog received 0.57 of a gram of salvarsan in pill and capsule form in the course of twenty-nine days without any disturbing effects. After the oral administration of salvarsan, arsenic is found in the bile and urine at the end of twenty-four hours, but it disappears by the end of seventy-two hours. Twenty-four hours after the oral administration of salvarsan to cats, the number of bacteria in the intestinal tract appears to be reduced, the reduction being most striking in the lower end of the ileum. Salvarsan administered by mouth and likewise intravenously to rabbits in doses approximating those employed in human subjects, does not produce, at least within ninety-six hours following its administration, any appreciable microscopic changes in the important viscera. With the exception of a little vomiting and diarrhea in some cases, salvarsan can be given by mouth up to 0.6 of a gram to human subjects without producing toxic symptoms. Thus administered, the drug exerts a therapeutic influence, but this influence is too feeble to warrant its use by this route.

Public Health Journal, Toronto

April, III, No. 4, pp. 169-232

124 Cheese Factory and Farm Well Waters. W. T. Connell, Kingston, Ont.
125 Work for Women as Sanitary Inspectors. E. Hurlbatt, Montreal.
126 Vaccines and the Common Cold. C. Laidlaw, Ottawa.
127 Insanitary Areas. J. Roberts, Hamilton, Ont.
128 Factors in Spread of Acute Intestinal Infections. H. W. Hill, Minneapolis, Minn.
129 Sanitation in Railroad Camps. H. G. Nyblett, Macleod, Alberta.
130 Ideal Waterworks System for Small Town. F. McArthur, Saskatchewan.
131 Six Weeks of Early Spring Bloom. R. R. Todd, Toronto.
132 Farm Water-Supply. F. T. Shutt, Ottawa.
133 Sanitary Inspection of Villages. H. O. Boyd, Bobcaygeon.

Boston Medical and Surgical Journal

May 2, CLXVI, No. 18, pp. 651-686

134 Influence of Antivivisection on Character. W. W. Keen, Philadelphia.
135 Dr. Samuel Sheldon Fitch, New England Consumption Specialist of Seventy-Five Years Ago. H. F. Stoll, Hartford, Conn.
136 *Cerebrospinal Meningitis Caused by Acid in Blood. D. G. Hall, Dallas, Texas.
137 Series of One Hundred Cases of Vaginal Hysterectomy for Uterine Fibromata. C. G. Cumston, Boston.
138 Medical Gymnastic Treatment in Certain Circulatory Disturbances. G. Sundelius.

136. **Cerebrospinal Meningitis.**—Seven out of nine patients examined by Hall showed acid saliva. He says it is only reasonable to suppose, if the blood in meningitis is overcharged with acid, the best way to ward off the disease is to keep it alkaline, as in its normal healthy condition. Hall also claims that the germ of each disease thrives in blood which contains an abnormal amount of acid. If the meningococcus thrives in blood which is highly charged with acid, and the same organism is also found in the excretions of a healthy person is it not logical to suppose these latter owe their immunity from the disease to the fact their blood is alkaline? It is well known, after a person has once had inflammatory rheumatism, and has fully recovered, if the blood again becomes charged with acid, after many months or years, there may be a relapse of the disease. Is it not fair to suppose the relapse in meningitis is due to the same cause? The fact that the blood in meningitis contains an excess of acid does not in the least prove the disease may not be infectious, but it seems hardly probable a person could become infected unless his blood were acid and the germ could be able to find a suitable feeding ground. An excessive fondness for sweets, sugar and syrup, is held responsible for this acid condition of the blood. What, then, should be a physician's advice to his patients to guard them against contracting meningitis?

First, Drink large quantities of good water.

Second, Eat no sugar or syrup.

Third, If the urine is highly colored, take some alkaline diuretic, such as one-half teaspoonful of sodium bicarbonate morning and night, dissolved in a glass of water. In regard to the treatment of meningitis, it seems to Hall that it would be advisable to prescribe in addition to the "serum inoculations," the free use of some mild alkaline drink, to bring the blood back to its normal condition as soon as possible.

American Medicine, Burlington, Vt.

March, VII, No. 3, pp. 127-178

139 Thyroid Modification and Therapy. H. Stern, New York.
140 Impressions of Panama Canal. D. W. Montgomery, San Francisco.
141 Heart Diseases and Epigastric Symptoms. M. Manges, New York.
142 Commitment of Insane. W. Steinach, New York.
143 Cholecystitis. W. H. Ross, Brooklyn.
144 Morbific Processes Controlled by Hypodermic Use of Aseptic Chemical Solutions. J. B. White, New York.
145 Detection of Ureteral and Renal Calculi by Radiography. P. S. O'Donnell, Chicago.

V. 58 1912

Ophthalmology, Seattle, Wash.

April, VIII, No. 2, pp. 307-360

146 Rupture of Descemet's Membrane Due to a Blow from a Blunt Object. J. L. McCool, Portland, Ore.
147 Cataract Operations in Congenital Aniridia. J. Fejer, Budapest, Austro-Hungary.
148 Operative Treatment of Conical Cornea. S. S. Golovine, Moscow.
149 Simple Sclerectomy in Glaucoma. Bettremieux, Robiax, France.
150 Iridectomy and Sclerectomy in Glaucoma. Bettremieux, Robiax, France.
151 Hemorrhagic Glaucoma, Sclerectomy. M. A. Terson, Paris, France.
152 Multiple Lacrimal Puncta. E. F. Chase, North Yakima, Wash.
153 Light Hood for Electric Ophthalmoscope. C. W. LeFever, Philadelphia.

Journal of Abnormal Psychology, Boston

April, VII, No. 1, pp. 1-88

154 Short Study in Dislike. W. D. Tait, Montreal.
155 A Forgotten Dream. E. Jones, Toronto.
156 Poetry and Dreams. F. C. Prescott, New York.
157 Physiognomical Reflex. S. Baker, Utica, N. Y.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

April 20, I, No. 4625, pp. 1042-1108

1 Modern Views on Significance of Skin Eruptions. H. G. Adamson.
2 Mosquitoes and River Vessels. A. Balfour.
3 *Radium Emanation in Mineral Waters. T. P. Lowe.
4 *Vaccine Therapy in Rheumatoid Arthritis. T. J. Horder.
5 Recurrence of Adenoids. T. Guthrie.
6 Volvulus of Spermatic Cord. A. A. McConnell.
7 Treatment of Early Stages of Senile Cataract. H. Smith.

3. Radium Emanation in Mineral Waters.—Lowe reports a case of cirrhosis of the breast in a woman of 75, which, he says, "was cured by exposing it to the gas emanating from a spring. The ulcerated surfaces were exposed for ten minutes daily, and after twelve applications all the ulcers had healed and some of the surrounding induration had disappeared."

4. Vaccine-Therapy in Rheumatoid Arthritis.—The point is made by Horder that he discusses not "the vaccine treatment of rheumatoid arthritis," but "vaccines in the treatment of rheumatoid arthritis." Every case of "rheumatoid arthritis" should, he says, be considered on its own merits. He prefers the term multiple arthritis, of which, after all, "rheumatoid arthritis" is only a specialized form. The proper examination of the case, he continues, entails two separate investigations: (1) a critical analysis of the symptoms and signs, as referable to changes in joints, muscles, nerve tissues, blood and general nutrition; and (2) an examination which has for its special object the discovery of one or more foci of infection. In this second part of the examination careful attention is paid to the mouth, the fauces, the nose, nasopharynx and nasal sinuses, the respiratory tract and the uterus. Any lesion in one or more of these situations is carefully noted and a thorough examination is then made of the bacterial flora connected with it. Due consideration is then given to the nature and numbers of the microorganisms obtained and the special evidence of affinity between them and the arthritis.

In dealing with the infective focus, if such is found, it must constantly be remembered that the first principle in treatment is to secure efficient drainage. Unless this is established all vaccine treatment is vain. Local treatment, therefore, should always precede inoculation. If the local treatment involves surgical procedures, such as the extraction of several septic teeth, the excision or curetting of an ulcer, or the removal of an infected tonsil or polypus, it is sound treatment to protect the patient against a temporary exacerbation of his infection by giving him two or three preliminary inoculations with the appropriate vaccine. This is more by way of prophylaxis than as curative treatment. But to subject the patient to a prolonged course of vaccine therapy and to leave the local focus of infection to look after itself, Horder says, is to reverse the order of common sense procedures. All vaccine therapy should be held in reserve for at least fourteen days after surgical measures have been undertaken, for as a result of these measures the patient is very apt to inoculate himself, and this forms a definite contra-indication to the addition of fresh antigen or bacterial toxin while the temporary auto-inoculation is proceeding.

Assuming, then, that all the points in the general management of the case are receiving thorough attention, and that the infective focus brought to light is also receiving local treatment, Horder proceeds cautiously to raise by specific means the level of the patient's immunity against the residual infection going on at the site of the original invasion or against secondary foci in the body which cannot be dealth with directly. The means available are: (1) immune sera, by which it may be possible to supply temporarily a degree of passive immunity; and (2) vaccines, by which it is hoped to stimulate the patient to a more permanently useful degree of active immunity.

Clinical Journal, London

March 29, XXXIX, No. 24, pp. 369-384

8 Nasopharynx and Its Relation to Other Regions. M. Yearsley.

March 27, XXXIX, No. 25, pp. 385-400

9 Selection for Early Operation of Fractures of Long Bones. C. H. Fagge.
10 Some Diseases of Nose and Maxillary Antrum, with Illustrative Cases. W. Stuart-Low.
11 *Tuberculin Treatment. H. V. Barber.

April 3, XXXIX, No. 26, pp. 401-416

12 Hernia in Children. H. S. Pendlebury.
13 *Cardiac Disease in Children. R. O. Moon.
14 Dilatation of Bronchial Tubes in Children. T. Fisher.
15 Surgical Cases in Children. E. M. Corner.

April 17, XL, No. 2, pp. 17-32

16 Enlargements of Liver. F. Taylor.
17 Intrinsic Cancer of Larynx: Plea for Early Diagnosis and Treatment. H. Tilley.

11. Tuberculin Treatment.—In London, three tuberculin dispensaries have now been established, at Kennington, Battersea and Greenwich; while provincial branches have been opened in Aldershot, Street (Somerset), Portsmouth, Aberdeen, Inverness, Leith, Irvine (Ayrshire) and Naas (Ireland). The experience gained in Edinburgh is instructive. Writing from the Public Health Office, Charlotte Street, Leith, in June, 1911, Dr. Wm. Robertson, Medical Officer of Health, says that tuberculin administered in progressive doses has in Leith given results that they were never able to achieve by mere open-air methods. These had been in operation for nine years. After carefully weighing the pros and cons he arrives at the conclusion that tuberculin offers far more help to the consumptive than sanitarium treatment alone. An association called "The Tuberculin Dispensary League" has been established for the purpose of making the tuberculin treatment more widely known, and of raising funds with the object of creating a vast network of tuberculin dispensaries all over the United Kingdom to help stamp out the great "white peril" that is devastating the land.

13. Cardiac Disease in Children.—In children, heart disease presents many differences from the same affection in adults, so that it is worth while considering it separately. Then, too, the early recognition of a cardiac lesion in childhood, together with its careful and judicious treatment, may go far to minimize some of the worst aspects of heart disease as we know it in later life. In children the causation of heart disease is much simplified by the fact that it is unnecessary to consider all those degenerative changes of the myocardium, valves and coronary arteries comprehended under the term "arteriosclerosis" which are such grave features of heart disease in later life. For in childhood cardiac disease is the result of inflammation and not of degeneration, the vast majority of cases which present themselves to us being the result of an acute or subacute endocarditis.

There is no difficulty about the diagnosis, provided we make a rule of always examining the hearts of children who are brought to the doctor for indefinite symptoms, pointing to malnutrition. For the fact is, says Moon, that the heart, when affected in children, tends to produce a condition of malnutrition and wasting which is not often seen in adults; this is quite generally realized in the case of congenital heart disease, but is not so well known in connection with an acquired cardiac lesion. Of course, when the case comes with obvious cardiac symptoms, such as shortness of breath, periodical pain and

attacks of palpitation, which are less frequent than in the case of adults, there is no excuse for not making the diagnosis. Other common symptoms of chronic valvular disease in children are headache, cough and epistaxis.

In cases of chronic valvular disease, which is well compensated, one does not so much require treatment as guidance. Plenty of fresh air, good food and hygienic surroundings are of the first importance. Special care should be taken to guard against a fresh attack of rheumatism; the child should have woolen clothing next its skin, and not go out too readily in cold damp weather. Where it is possible to choose a climate, one should select a dry and bracing place with plenty of sunshine and a house on gravel soil with a southerly aspect. The meals should be small, and in particular all excess of starchy foods and sweets must be avoided, which so readily give rise to flatulence and acidity; there is no objection to nitrogenous food being taken by children in ordinary quantities.

Exercise in moderation is undoubtedly good, but certain forms of it must be absolutely forbidden; thus swimming, and games which involve much running must be ruled out. On the other hand, there is no objection to bicycling, if the patient will walk up the hills; riding, rowing, skating and also cricket are all permissible in moderation. It is often well, in Moon's opinion, even for those cases of compensated heart lesions, to lie down for half an hour every day. With the first sign of failing compensation as shown by shortness of breath, palpitation of the heart or pulmonary congestion, rest becomes imperative; it need not, perhaps, be absolute, but it will certainly mean lying down for the larger part of the day. It may then be necessary to employ specific heart tonics, children taking digitalis very well; often this is suitably combined with an aperient, and a useful prescription of Dr. Eustace Smith's is to give 1 dram each of infusion of digitalis, senna and calumba for a child of ten years. At the same time Moon has generally found in these early stages of failing compensation that small doses of arsenic and iron act extremely well. When compensation has completely broken down with pulmonary edema and ascites then there is no material difference in the treatment of a child and an adult.

Australasian Medical Gazette, Sydney

March 16, XXXI, No. 11, pp. 261-292

18 Lister: His Life and Work. A. A. Lendon.
19 Practical Significance of Use of So-Called "Four Reactions" for Diagnosis of Syphilitic Organic Nervous Diseases. M. Nonne.
20 Case of Cornual Pregnancy. R. Worrall.

March 23, XXXI, No. 12, pp. 293-320

21 Reminiscences of the Late Lord Lister. R. H. Marten.
22 Surgery in 1911. C. MacLaurin.
23 Romance of Medicine. J. W. B. Bean.

British Medical Journal, London

April 20, I, No. 2677, pp. 873-932

24 Tuberculization and Detuberculization. R. W. Philip.
25 *End Results of Operation for Cancer of Tongue. A. R. Short.
26 Estimation of Calcium Metabolism. W. B. Bell.
27 Case of Osteitis Deformans in which Fracture of Femur Took Place as Result of Stooping. T. W. Parry.
28 Tests of Intelligence. W. A. Potts.
29 Arrest of Severe Epilepsy in Child Aged Four. J. S. Mackintosh.
30 *Radium Emanations in Mineral Waters. T. P. Lowe.
31 Effect of Unsuitable Neck Clothing on Health. W. G. Walford.
32 *Tincture of Digitalis: Its Potency and Keeping Properties. A. Goodall.
33 *Lateral Curvature of Spine (Scoliosis). P. B. Roth.
34 Left-Sided Subphrenic Abscess Due to Perforated Duodenal Ulcer. C. R. Box.
35 Operation for Decompression; Recovery. R. W. Mullock.

25. **Operation for Cancer of Tongue.**—This study by Short is based on the case histories of thirty-eight patients operated on for cancer of the tongue at the Bristol Royal Infirmary during the years from 1902 to June, 1911. It has been possible to obtain subsequent information in twenty-nine cases. The glands were removed two or three weeks after the excision of the growth in the tongue. In five cases it was necessary to divide the jaw. Four of these recurred, three of them locally; another patient died soon after the operation. In several cases the patient was apparently cured for some considerable time, and then the disease recurred, in one instance in the neck, in another in the mouth. These two men were free for nearly three years after the original operation. Two patients died of the operation, one of septic absorption and the other of gangrene of both lungs following a profuse secondary hemorrhage due to the foul state of the mouth. Short's figures bring out the superiority of the operation where glands are removed as compared with the older procedure of leaving them if they were not noticeably enlarged.

Thus, only one patient was cured out of twelve in whom the glands were left, but perhaps as many as six out of the seventeen in whom the glands were excised. Moreover, even of the remaining eleven cases in this group there is evidence that the patient was given more chance of relief. Two of them were well and free from recurrence for nearly three years, and another died of cancer of the spine ten months later. In several instances careful sectioning of the glands excised showed no cancer cells. In two such cases the growth nevertheless recurred in the neck (in the submental region and behind the sterno-mastoid, respectively).

The cancerous growth was preceded in three cases by a dental ulcer. In one of these the ulcer was excised and reported by a pathologist to be innocent, but a malignant gland appeared eighteen months later, and the patient died. In another case a papilloma had been removed two years before. One man had extensive leukoplakia and syphilitic fissures, which he used to rub with silver nitrate. Many of the patients had leukoplakia.

30. See abstract No. 3.

32. **Tincture of Digitalis.**—During the last three years Goodall examined twenty-three samples of tincture of digitalis, freshly made by chemists of repute. The standard employed was that 3 minims of the tincture should kill a frog weighing 20 gm. within four hours. Of the twenty-three samples twelve were of average potency, six were under the average and five were over the average strength. The actual strength of each may be indicated by stating the dose equivalent to the maximum pharmacopeial dose of 15 minims. Goodall says that since these varying results are obtained by manufacturers who are anxious to produce drugs of standard potency it would be of interest to know what kind of tincture is made by firms who aim at nothing more than keeping within the letter of the law as laid down in the pharmacopeia. It was noted that, in the case of tincture freshly made by firms of repute, the greater danger is likely to arise from the drug being too strong. Tincture of digitalis probably retains its full activity for one year, but after that period deterioration of its potency to an important extent is likely to take place.

33. **Lateral Curvature of Spine.**—An analysis of 2,000 consecutive cases of scoliosis has been compiled by Roth from the notes of cases treated in private practice from July, 1885, to June, 1899, by his father, Mr. Bernard Roth. There were 1,721 females and 279 males. In 89 per cent. the deformiy was first noticed between the ages of 6 and 20, and in 72 per cent. between the ages of 6 and 15. Five hundred and seventy-three patients, or 28.5 per cent., had blood relations also suffering from scoliosis. Particulars were obtained of ninety-three families in whom three or more members were affected; in twenty-three of these, four or more members were affected. Viewing the spine from behind, six varieties of deformity were met with: Ordinary C, 1,085 cases; reversed S, 618 cases; ordinary S, 123 cases; reversed C, 122 cases; ordinary ipsilon, forty-eight cases; reversed ipsilon, four cases. In 916 cases pain was present; slight in 282, moderate in 250, severe in 384. Flat-foot was present in 1,225 cases. In 933 of these cases the arch was not so restored; that is, they were cases of severe flat-foot.

British Journal of Children's Diseases, London

April, IX, No. 100, pp. 145-192

36 *Congenital Dyschesia. A. F. Hertz.
37 Hereditary Syphilis and Its Treatment by Salvarsan. J. L. Bunch.
38 Purpura Fulminans as Sequela of Scarlet Fever. T. McCririck.
39 Family with Membranous Discharge from Nose. A. M. Gossage.
40 *Case of Median Dermoid Cyst of Nose. M. Yearsley.

36. **Congenital Dyschesia.**—All cases of constipation are divided by Hertz into two classes: in the first, which he calls intestinal constipation, the passage of feces through the intestines is delayed, while defecation is normal; in the second class for which he adopted the name dyschesia, there is no

V. 58
1912

delay in the arrival of feces in the pelvic colon, though their final expulsion is not adequately performed. It is extremely important to recognize these two classes of constipation, as their treatment is entirely different: diet, abdominal massage and aperients, which are appropriate for intestinal constipation, are quite useless in dyschesia, attention to the hygiene of the bowels and reeducation of the defecation reflex by means of graduated enemata being the correct treatment. The dyschesia soon leads to secondary retention of feces in the pelvic colon, and in severe cases in still higher parts of the large intestine, as, unless enemeta are given, the rectum is never empty, and in spite of its dilated condition there is insufficient room for all the retained feces.

The irritation caused by the retained feces is likely to give rise to catarrhal colitis, and in the case of a girl of eight with congenital dyschesia, retention occurred as far back as the cecum, giving rise during the last four years to repeated attacks of typhlitis, with pain, tenderness, vomiting and pyrexia, which were at first diagnosed as appendicitis and were only recognized to be something different when five further attacks occurred after the removal of the appendix eighteen months ago. Roentgen-ray examination after the colon had been emptied showed that there was no delay in the passage of feces as far as the rectum, but that severe dyschesia was present.

40. **Median Dermoid Cyst of Nose.**—Yearsley's patient, a girl, aged 5 years, presented herself with a swelling in the median line of the nose, which had been first noticed two years earlier and was said to be increasing in size. It measured 1 inch by ¾ inch in its widest part, and was soft and elastic to the touch, with a feeling of bogginess on pressure. There was no sign of any fistula in the neighborhood. The cyst was removed through a median incision. On dissecting it out, it was found to be attached to the nasal bones close to their junction with the lateral cartilages. It contained a grayish, putty-like material and was lined with fine white hairs. The wound was drawn together by two fine horse-hairs and quickly healed. On section the cyst wall showed a lining of skin with hair-follicles and sebaceous glands.

Glasgow Medical Journal

April, LXXVII, No. 4, pp. 241-319

41 Keratitis as Cause of Myopia. J. A. Wilson.
42 Concomitant Squint Following Injury to Head and Eye. A. J. Ballantyne.
43 *Two Cases of Tuberculosis of Uterus. M. J. Stewart.
44 Plague as Factor in History. J. P. Granger.

43. **Tuberculosis of Uterus.**—Stewart's patient complained of swelling of the abdomen, with pain in the hypogastric region of about eight weeks' duration, and with increasing weakness and pallor of one year. Menstruation was always irregular, and finally ceased about a year ago. When the abdomen was explored by operation a large inflammatory tumor was found in the pelvis, firmly adherent in front to the uterus and right broad ligament and tube. A portion of the mass about the size of a turkey's egg was removed and the cavity drained. Death took place a week later. Microscopically, the mass removed at operation consisted of a loose cellular granulation tissue, with numerous thin-walled blood-vessels; while scattered irregularly throughout it were many typical tubercules with giant cells and central caseous foci.

Australian Medical Journal, Melbourne

March 9, I, No. 34, pp. 369-380

45 Complete Rupture of Uterus with Escape of Fetus and Placenta into Peritoneal Cavity. A. W. D. Robertson.
46 Case of Retained Tracheotomy Tube and Laryngeal Stenosis. P. S. Webster and S. W. Ferguson.
47 Maternal Impression. T. Rowan.

March 16, I, No. 35, pp. 381-392

48 Some Anatomic Considerations of Joint Fixation. W. Mackenzie.
49 Acute Nephritis with Aphasia and Imbecility. W. F. Brownell.
50 Ophthalmoscopic Appearance of Arteriosclerosis. J. W. Barrett and W. P. Orr.

Bulletin de l'Académie de Médecine, Paris

April 2, LXXVI, No. 14, pp. 289-304

51 Heredity and Feeding as Factors in Tuberculosis in Calves. (Sur la part de l'hérédo-contagion et de l'allaitement dans la tuberculose du veau. Indications relatives à la pathologie humaine.) M. Chausse and H. Benjamin.

Lyon Médical, Lyons

March 31, XLIV, No. 13, pp. 701-756

52 Atypical Zona. J. Minet.

Presse Médicale, Paris

April 10, XX, No. 29, pp. 289-296

53 Idiopathic and Symptomatic Genu-Valgum. (Genu-valgum essentiel et genu-valgum symptomatique.) E. Kirmisson.
54 *The Cerebrospinal Fluid in Pellagra. (Le liquide céphalo-rachidien dans la pellagre.) P. Boveri (Pavia, Italy).

April 13, No. 30, pp. 297-308

55 *Sprained Ankle and Tuberculosis of the Foot. (Entorse et tuberculose du pied.) A. Broca.
56 Clinical Examination of Cardiovascular System. (Valeur respective des diverses méthodes modernes d'exploration du système circulatoire.) A. Martinet.
57 *Small Chest and Large Abdomen with Emphysema. (Le petit thorax et le grand abdomen de malades dits emphysémateux.) G. Caussade and G. Leven.
58 *Preliminary Serotherapy by the Mouth and in Local Application. (Sérothérapie antistreptococcique par voie buccale et en applications locales.) A. Darier.

54. **The Cerebrospinal Fluid in Pellagra.**—Boveri says that pellagra occurs exclusively among the poor, that is, among the peasants working in the fields on insufficient nourishment. Pellagra is not encountered in cities, he asserts, and the link connecting pellagra and the insufficient nourishment is a too exclusive corn diet. The pellagrins in Italy seem to be all of this class. He found the cerebrospinal fluid always limpid but occasionally under high pressure, with an increase in the albumin and slight lymphocytosis, but the fluid was always apparently sterile. The patients with the fluid under high pressure all presented the typhoid form of pellagra. The localization of the disturbances in pellagra is ascribed by Boveri to a local predisposition afforded by the excessive use of certain muscles; in men accustomed to agricultural labor the lower segments of the spinal cord are generally first and predominantly affected while the upper segments are comparatively spared.

55. **Sprained Ankle and Tuberculosis of the Foot.**—Broca does not agree with those who regard Pott's disease and other surgical tuberculous lesions as of traumatic origin. He is convinced that the trauma occurs because the part is already the seat of a tuberculous affection; it is the effect rather than the cause in the large majority of cases. A traumatic origin should be accepted only when the trauma was well defined and the local signs followed close on it. This only rarely occurs; the mother seeing a swelling says the child must have had a fall, and what child does not have falls every day and what workman does not bruise some joint now and then! Investigation will reveal some slight functional disturbance in the region long before the alleged trauma; the child with the "traumatic" Pott's disease has complained of "neuralgia," the workman has limped a little at some time. Even if no history of the kind can be elicited, do not forget the cases so often encountered in which the family says that the large hump or dislocated hip-joint dates from a few days only.

57. **Pseudo-Emphysema.**—Caussade and Leven have found that a certain number of patients presenting the symptoms of emphysema yet have in reality nothing of the kind and the syndrome is readily curable in their cases. The trouble with them is that the chest is small and the lungs are compressed by gases in the stomach and intestine plus air swallowed into the stomach, while the abdominal wall is distended and taut, lined with a thick layer of adipose tissue, for these patients are always fat or obese. The small chest and big abdomen are characteristic, while the respiration index is small as with true emphysema. The lung is reduced in size, the chest cavity abnormally small, while in true emphysema both the lungs and the chest cavity are abnormally large. Radioscopic measurements, study of the diaphragm excursions, and the prompt benefit from treatment addressed to the pseudo-emphysema readily differentiate the condition.

58. **Preliminary Serotherapy by the Mouth.**—Darier advocates administering at once, without waiting for bacteriologic control, diphtheria antitoxin by the mouth in every case of infection of whatever nature, but especially streptococcus affections. He prescribes the formula: diphtheria antitoxin 20 c.c.; syrup of lemon or raspberry 30 gm., and water 130

gm., and has the patient take a tablespoonful of this every hour until bacteriologic examination decides the nature of the infection and the indications for specific serums or vaccines. He calls this paraspecific serotherapy, and states that in five or six years' experience with it he has found it extremely useful and effectual in all forms of infection except actual diphtheria. It is given at the very first symptoms and hence begins to exert its influence before the intoxication has become very intense, while the body needs only slight assistance to rouse the resisting powers of all the tissues. He cites recent experimental research by Ruppel and Mayer showing the efficiency of serotherapy by the mouth or in local application for streptococcus affections when applied early in the process. The antitoxin he uses is the regular Paris (Roux) product.

Archiv für Gynaekologie, Berlin

XCVI, No. 2, pp. 217-403. Last indexed April 6, p. 1043

59 Mode of Spread of Genital Tuberculosis. (Die Ausbreitungswege der Genitaltuberkulose.) A. Bauereisen.
60 Toxicity of Urine During Pregnancy and Puerperium. (Verhalten der Harntoxizität in der Schwangerschaft, Geburt und im Wochenbett.) R. Franz.
61 Deformities of the Skull. (Zur Kenntnis einiger Schädelanomalien der Neugeborenen: Schaltknochen und Defekte der Schädeldeckknochen.) R. Meyer.
62 Intra-Abdominal Pressure. (Ueber intraabdominalen Druck.) L. Kaiser.
63 *Vaccine Therapy of Gonorrhea in the Female. (Die Vaccinbehandlung der weiblichen Gonorrhoe.) B. Slingenberg.
64 *Thrombosis and Embolism in the Puerperium. R. Junge.
65 Varices in Esophagus Responsible for Melena in New-Born Infant. (Fall von Melaena neonatorum, hervorgerufen durch Blutung aus angeborenen Phlebektasien des Oesophagus.) F. Vorpahl.
66 Experimental Research on Septic Thrombosis. E. Duffek.

63. Vaccine Therapy of Gonorrhea in Women and Girls.—Slingenberg reports from the university clinic for women at Amsterdam, in charge of Treub, the application of a course of polyvalent vaccine inoculations in vulvovaginitis in girls and women and with chronic tumors of the ovaries or tubes. They were all out-patients so that temperature control was not always possible. He gives the details of a number of cases in which the treatment was very successful. In others the patients reacted with great intensity to minute dosage, in others only with a weak reaction to large doses. In some the reaction was so intense as to be very disagreeable, so that caution is imperative. A diagnostic course of inoculations with progressive doses, which fail to induce any reaction, can be accepted as excluding gonorrhea.

64. Puerperal Thrombosis and Embolism.—Junge found signs of varices of the legs in 26.8 per cent. of the 10,056 women delivered at the Strasburg maternity during the last ten years. This included 28 per cent. primiparæ and 71.8 per cent. multiparæ. During this period there were eighty-one cases of puerperal thrombosis, a proportion of 0.8 per cent., involving 26 per cent. primiparæ and 74 per cent. multiparæ. In twenty-three of the eighty-one cases of thrombosis there was a pre-existing infectious process, due to the gonococcus in one, the colon bacillus in two and the streptococcus in the others. In nine cases there were signs of heart disease, and in thirteen there had been excessive loss of blood. Embolism occurred in only four cases, fatal in one. Study of all this material from various standpoints shows, he says, that injury of the endothelium of the wall of the vessels, in addition to disturbances in the circulation, is the main factor in puerperal thrombosis. A single occurrence predisposes to new attacks. There is usually a slight rise in temperature, and thrombosis of the femoral vein is generally accompanied by fever, yet there is no absolutely reliable premonitory symptom. Thrombosis of the saphenous vein has almost always a good prognosis; with deeper lying veins there is more danger of embolism, although this is rare.

Berliner klinische Wochenschrift

April 1, XLIX, No. 14, pp. 629-676

67 Acquired Sensitization of the Skin. (Erworbene Ueberempfindlichkeit der Haut.) F. Sauerland.
68 Radium in Therapeutics. (Moderne Radiumtherapie.) P. Lazarus.
69 Anaphylatoxin and Bacterial Toxin. (Weitere Untersuchungen über Anaphylatoxin und Bakteriengift.) H. Aronson.
70 Influence of the Glands with an Internal Secretion on the Psychic Sphere. (Ueber die Einwirkungen der Blutdrüsen auf den Ablauf psychischer Funktionen.) A. Münzer. Commenced in No. 13.

Deutsches Archiv für klinische Medizin, Leipsic

CV, Nos. 5-6, pp. 449-628. Last indexed April 6, p. 1046

71 Causal Connection Between Pylorospasm, Hypersecretion and Motor Disturbances. K. Fujinami.
72 *"Pure" Mitral Stenosis Endocarditic in Origin. P. Hampeln.
73 *Rachitis and the Blood-Producing Organs. II. (Das Blut bei Rachitis.) E. Aschenheim.
74 *Diabetes Mellitus. (Zur Theorie und Therapie des Diabetes mellitus.) F. Rolly.
75 *Pathogenesis of Asthma. A. Chelmonski.
76 *Primary Colon Bacillus Pyelitis. (Ueber primäre Colipyelitis.) F. Meyer-Betz.
77 Graphic Registration of the Heart Sounds. (Zur Registrierung der Herztöne nach O. Frank.) A. Weber and A. Wirth.
78 *Fat in the Stools. (Untersuchungen über Fettstühle.) H. von Roesslin and T. Kashiwado.
79 Case of Hemorrhagic Neuritis with Purpura. H. Elchhorst.

72. Mitral Stenosis.—Hampeln regards pure mitral stenosis as an independent valvular defect which generally develops between the ages of 10 and 30 as a result of endocarditis. It may be congenital or functional but only in the rarest cases. The female figure, especially when there is a tendency to weakness and hypoplasia, seems to favor the development of this form of valvular defect. It consequently occurs mainly in girls and is distinguished by its relative harmlessness, although the patients rarely live to an advanced age. No certain case of congenital pure mitral stenosis has ever been encountered at necropsy, although Hampeln himself had a case of pure congenital "ostial" stenosis, the mitral valves proper being normal. The orifice was only 5.5 cm. in circumference.

73. The Blood in Rachitis.—Aschenheim studied the blood of a number of healthy children to obtain a standard for comparison with the rachitic, and gives in tabular form his findings in both categories. Slight anemia is the rule with rachitis and the blood findings on the whole are typical, although he does not venture to decide whether the changes are primary or secondary. The leukocytes are slightly increased in number, all the mononuclear forms are increased and show many atypical shapes. Myelocytes are found in the severe forms and the nucleated reds may reach extremely high proportions. The blood changes do not parallel the severity of the rachitis.

74. Diabetes Mellitus.—Rolly's experimental research and clinical experience all confirm the assumption that there is no essential difference between the various forms of starch in the diet of diabetics. By varying them and interposing vegetable days a useful variety can be imparted to the diet. The two flour days should be preceded and followed by three of four vegetable days. The menu on the flour days is 250 or 300 gm. flour, 200 or 300 gm. butter, with or without from 50 to 100 gm. of vegetable albumin or from two to six eggs. Rye-flour soup is especially liked by Rolly's patients. It is important to refrain from all meat albumin on the flour days as the combination of meat with the flour counteracts all the favorable influence of the flour diet. He has been conducting research on the respiratory interchanges and metabolic findings in general with a special apparatus of which he gives an illustrated description. His aim was to learn the special differences between the action of animal and vegetable protein on the diabetic and normal organism. Some of the points thus ascertained confirm the necessity for restricting the intake of meat albumin, as part of it is eliminated as sugar in the urine, unutilized, while the fixation of glycogen is impeded by the presence of meat albumin so that the glycogen already in the body is mobilized and eliminated also as sugar in the urine. He asserts that human diabetes should never be compared with experimental pancreas diabetes in dogs, as they differ essentially.

75. Origin of Asthma.—Chelmonski gives the details of thirteen typical cases of asthma in all of which roentgenoscopy revealed the presence of swollen lymph-nodes encircling the bronchi. The lymph-nodes were the largest in the cases in which the asthma was most severe. The constancy of this finding shows that this is an essential, hitherto undescribed symptom of asthma, and possibly a causal factor, the compression or irritation of the corresponding nerves possibly being the origin of the attacks of asthma, exacerbations congestion or other factors explaining the periodicity of the attacks.

V. 58 1912

76. **Primary Colon Bacillus Pyelitis.**—Betz reports extensive research in cases of this kind and on means of treatment. He has found that the thin, weakly acid urine with pyelitis is the most favorable culture medium possible for the colon bacillus, while it is unable to proliferate in very acid, concentrated urine. Consequently the diet should be regulated to keep the urine in this condition, both acid and concentrated. He gave for that purpose phosphoric acid in the form of a lemonade (10 per cent. phosphoric acid, 50 gm.; syrup of raspberry, 50 gm.; distilled water to 1,000 gm.). The amount of pure H_3PO_4 was thus 5 gm. a day. The diet was meat, milk and no vegetables or fluids except the above lemonade. By this means the urine was rendered very acid and by having the patients sweat by a long, hot-air sweat bath in bed, the concentration was increased. After subsidence of the first high fever, this method of treatment can be applied for weeks without harm except that in old, severe cases the sweating may be contra-indicated for fear of circulatory disturbances, or the patient may not be able to sweat freely. This method of managing pyelitis is exactly the reverse of the routine method of ordering a mild diet and copious drinking. Vaccine therapy and drugs may be necessary besides. The colon bacillus rapidly acquires resisting power to a medicine, consequently the drugs taken internally to disinfect the urine should be changed frequently. An intermittent course of various drugs, plus the increase in acidity and in the concentration of the urine by the above measures, offer, he thinks, the best prospects in treatment of primary pyelitis from the colon bacillus.

78. **Fat in the Stools.**—This article is based on the findings in eight cases; they suggest that the soaps in the stools are generally calcium and magnesium soaps. The benefit from large doses of calcium in diarrhea with jaundice is emphasized.

Deutsche medizinische Wochenschrift, Berlin

April 4, XXXVIII, No. 14, pp. 633-688

80 *Treatment of Diphtheria. (Behandlung der Diphtherie.) E. Feer.
81 Pseudoleukemia. (Ueber die sogen. Hodgkinsche Krankheit.—Lymphomatosis granulomatosa.) E. Fraenkel.
82 Spontaneous Tuberculosis in Rabbits. (Studien über spontane Kaninchentuberkulose.) F. W. E. Rothe.
83 *By-Effect of Hormonal. (Ueber Nebenwirkung des Hormonals.) F. A. Hesse.
84 *Lead Poisoning. (Medizinisches über die Bleivergiftung.) F. Blum.
85 Salvarsan in Early Treatment of Syphilis. (Zur Kasuistik der Frühbehandlung der Syphilis mit Salvarsan.) P. Mülzer.
86 Addition of Sodium to Salt Solution in Wassermann Reaction. (Ueber die Verwendung sodahaltiger physiologischer Kochsalzlösung bei der Wa. R.) A. Pöhlmann.
87 Wire Reenforcing Sphincter in Treatment of Prolapse of Anus and Rectum. P. Herz.
88 *Advantages of Local Scarification of Uterine Cervix. (Die Skarifikation des Uterus in der Hand des praktischen Arztes.) E. Engel.

April 11, No. 15, pp. 689-736

89 *Climacteric Disturbances in Women. (Behandlung der klimakterischen Beschwerden des Weibes.) P. Jung.
90 Uncontrollable Vomiting of Pregnancy as Sign of Intoxication. (Hyperemesis als Schwangerschaftsintoxikation.) L. Seitz.
91 Experimental Epidemic Poliomyelitis. (Experimentelle Poliomyelitis acuta.) M. Neustadter and W. C. Thro.
92 Familial Paralysis. (Zur Kenntnis der familiären Paralyse.) Vorbrodt.
93 Psychiatric Diagnosis. (Ueber die psychologischen Hilfsmittel der modernen psychiatrischen Diagnostik.) G. Voss.
94 *Treatment of Gastric Hypersecretion by Reduction of Chlorids. (Zur Frage der Chlorentziehung bei Hypersekretion des Magens.) H. L. Richartz.
95 Technic for Dosage of Tuberculin. (Ueber die Dispensierung des Tuberkulins.) K. Meyer.
96 Foreign Bodies in Urethra. (Eine Ausgipsung der Urethra.) Waelli.
97 New Infection After Abortive Treatment of Syphilis. H. Hecht.
98 Present Status of Treatment of Syphilis in General Practice. (Zur Frage des jetzigen Standes der Luesbehandlung in der Praxis.) R. Lenzmann.

80. **Treatment of Diphtheria.**—Feer remarks in the course of this general lecture on diphtheria, that primary diphtheria of the larynx occurs more frequently than is usually recognized. It should be suspected when hoarseness in a child is constantly increasing and stenosis and aphonia develop in from one to three days. Primary diphtheria of the nose also is often overlooked. He insists that every febrile coryza with enlargement of the glands and impairment of the general health is suspicious, especially when the discharge is thin and purulent, with traces of blood. The nasal variety may run a very mild protracted course and its true nature may not be suspected until contacts develop diphtheria of a severer type. Infants are exceptionally prone to primary and isolated diphtheria of the nose. In his clinical experience diphtheria of the throat has scarcely ever spread down into the larynx since serotherapy has been introduced. He injects the antitoxin into the muscles of the thigh as a rule, but in urgent cases, when a vein is prominent, he injects it into a vein. Local treatment is of subordinate importance although with the nasal form insufflation of bolus alba sometimes does good service, as also in ordinary coryza. More important than local measures is the supervision of the cardiovascular system, with stimulants if the pulse grows fast and weak. The danger of anaphylaxis renders him very cautious in regard to prophylactic injections of antitoxin. He advocates them only for exposed, quite young children in the home, especially when they already have a cold in the head. In hospitals, he advises a prophylactic injection for children with coryza, measles or scarlet fever that have been supposedly exposed to diphtheria. He endorses Meyer's suggestion to use in prophylactic injections an antitoxin made from sheep, reserving the horse antitoxin for treating actual diphtheria. His experience confirms that of others that no means is known to clear the throat of diphtheria bacilli after recovery. Established diphtheria should be combated the more vigorously the younger the patient; with an older child with merely slight symptoms he defers the antitoxin treatment until sure of the diagnosis, but with young or frail children he injects it on mere suspicion; the delay of even a day or so may prove fatal in such a case.

83. **By-Effects of Hormonal.**—Hesse reviews the literature on hormonal to date and reports a case which he says testifies against the alleged harmlessness of hormonal. It was a case of apparent ileus from an eight days' incarcerated hernia in a rather frail woman of 43. The adhesions were detached and the hernia reduced without trouble, but the bowel functioning did not start up well and the abdomen was still much distended. Conditions seemed particularly favorable for the use of hormonal, according to the claims made for it, the bowels not being actually paralyzed as some stool had been passed after a mild purgative (compound licorice powder). An intravenous injection of 20 c.c. of hormonal was then made, but collapse followed at once, before the injection was quite finished. The patient became unconscious, the respiration deep and slow, interrupted by pauses; the pulse became imperceptible, the pupils dilated, with no reaction, and for a half a minute or a minute there were clonic spasms of the entire body, but the face and lips retained their normal tint. Under camphor the patient gradually recuperated. The pupil reaction returned in ten minutes and the patient regained consciousness twenty minutes later. The temperature was taken every half hour but did not reach 38 C. until the next day. By the fourth hour after the injection the patient had entirely recovered, with no injurious consequences from the collapse. The bowels moved freely two hours after the injection and castor oil the next day completed the cure. The hormonal consequently had the desired action on the bowels, Hesse says, but the severe by-effects observed suggest great caution in its use. It might be wise to test the blood-pressure of the patients beforehand, and if the pressure is abnormally low, refrain from the use of the hormonal. Or, he suggests, it might be possible to combine some pressure-raising substance, such as epinephrin, with the hormonal to reduce its pressure-reducing property, provided this did not interfere with its specific peristalsis-inducing action. For the present, however, he warns the general practitioner against the use of hormonal as such a collapse as he encountered, if occurring in the home, in the presence of the patient's family, might have very unpleasant consequences for the physician. In any event, the practitioner should inform the family of the possibility of some complication of the kind, and for the present recommend and use hormonal only in the most urgent cases. Hesse gives the literature on hormonal, a total of twenty-eight articles.

84. **Lead-Poisoning.**—Blum discusses the nature and diagnosis of lead-poisoning, emphasizing the diagnostic importance of numbers of granulated red corpuscles and the great prognostic importance of a high blood-pressure. The latter warns

of impending contracted kidney as the result of lead-poisoning. If the blood-pressure is found regularly above 130 mm. mercury, the patient must be regarded as in extreme danger. The high blood-pressure is more dangerous in persons with lead-poisoning than in others, as their blood-vessels have suffered from the action of the lead and are peculiarly fragile. This explains the predisposition to cerebral hemorrhage which is so frequent among persons with high arterial tension from lead-poisoning. The elimination of the lead is peculiarly slow and tedious in the sclerotic vascular system of such patients. In regard to treatment, he remarks that the old reputation of potassium iodid for aiding in the elimination of the lead is not sustained by actual facts. Light baths, sweating procedures and electricity are of not much more use in aiding to expel the lead from the body. Purgatives have a more efficient action in this respect. At least they may keep the lead in the intestines from becoming reactivated. Whether there are any means of attracting into the bowels the lead from elsewhere in the body is still an open question. But purgatives should not be given too freely; they are contra-indicated with threatening or existing colic, in which they are an additional torment for the patient. Here are indicated opiates, belladonna or atropin, and at most an enema of oil or of hot chamomile infusion. Restriction of salt in the diet is useful with all forms of contracted kidney and high blood-pressure, and is particularly valuable when these are due to lead-poisoning. Blum asserts that a high blood-pressure under all circumstances calls for restriction of salt or absolute abstention. The paucity of the means of curing lead-poisoning at our command lends additional importance to prophylaxis. Even minute amounts of lead may be dangerous. He relates the history of a man with blood-pressure of 180 mm. mercury who dyed his beard. He had never had anything to do with lead before, but he soon developed toxic optic neuritis, followed by a condition of vasoconstriction and the eyes suffered from the long neuritis and the ischemia. Blum advises quarterly or semi-annual examination of persons exposed to lead-poisoning, and absolute prohibition of the trade involved as long as there are signs of lead-poisoning or the blood-pressure is above normal.

88. **Scarification of the Uterine Cervix.**—Engel reports eight instructive cases from his extensive experience to illustrate the prompt benefit that may be realized in certain forms of pelvic disease from scarification of the cervix, making from two to four shallow incisions, only 0.5 cm. deep, in the anterior or posterior lip of the cervix. The procedure is absolutely painless; he rinses then with a liter of cold water and applies a tampon impregnated with 20 per cent. ichthyol solution, the patient removing the tampon herself the next day. Women of 30 or 40 who have headaches, dizziness, oppression in the lower abdomen, sacral pain and hot flashes, should be examined for possible metritis, and when such is found the scarification always relieved and cured completely in his experience. It proved equally effectual also in curing dysmenorrhea disturbances of many years' standing.

89. **Menopause Disturbances.**—Jung comments on the lack of a causal treatment for these disturbances, but adds that much can be done by hygiene and dieting. The directions for a suitable diet must be explicit, as general directions are usually disregarded. As the disturbances are principally of vasomotor origin, the patients must avoid everything tending to raise the blood-pressure, especially alcohol and coffee. Lemonade, mineral waters or milk should be the beverages, with possibly weak tea, cocoa or a cereal coffee. All highly seasoned, salted or peppery articles of food should be avoided. Lemon juice should be used in place of vinegar in salads. Meat should be eaten sparingly, eggs and vegetables being given the preference. No purgatives should be allowed, but the bowels kept regular with a diet rich in waste, and one or two hours in the open air every day, light work in the field or garden and mild sports, but much physical exertion should be carefully avoided. Hydrotherapy is very useful for its sedative effects. A moist pack for two hours in the evening will ensure a good sleep, or a bath before retiring. Cold rubs in the morning, returning to bed for an hour or so afterwards, are useful. Narcotics should be avoided as they lead so easily to addiction; if drugs are necessary some harmless one like valerian should be used. It is often difficult to convince the patients that they have no organic heart disease. No certain benefit, he remarks, can be realized from commercial ovarian extracts except by the manufacturers. Their action on the patients is very uncertain, but they can be tried. If no benefit follows the taking of a hundred tablets, better drop this method of treatment. The tendency to obesity can be combated by restricting the number of calories in the food and by diligent out-of-door exercise. Thyroid extract should be tried only under constant medical supervision, and it should be abandoned at the slightest signs of injury of the heart, as it may bring on heart attacks and even sudden paralysis of the heart. He emphasizes the indispensable necessity for curetting the uterus in case of uterine hemorrhage. This is the only means to exclude cancer of the body of the uterus, while the curetting alone may arrest the tendency to hemorrhage. If the hemorrhage recurs later, medical measures should be tried, gelatine in the form of puddings, etc. If all these fail, then the uterus will have to be removed unless roentgenotherapy is given a trial. His experience with it for women in the forties has been quite favorable. Cystitis is exceptionally common at and following the menopause, and although it generally yields to the usual measures, yet recurrence is frequent and it often becomes chronic in elderly women.

94. **Restriction of Intake of Salt in Treatment of Gastric Hypersecretion.**—Richartz says that it is logical to reduce the intake of the elements from which the gastric juice is to be made when the juice is being secreted in excess. He applied this in a case of hypersecretion rebellious to all other measures. The patient was a college professor, 60 years old, who was on the point of resigning his lectureship as he had become so debilitated from the loss of sleep from the almost incessant pains in his stomach. The only way in which they could be suppressed even transiently was with enormous doses of an alkali. Richartz put him on a diet rich in fat, rinsed out his stomach once or twice a day, and had him take a course of mineral waters, supplemented by electrotherapy. No benefit followed and after two weeks salt was dropped from his food, all beverages forbidden except water with brandy or tea. The stomach was rinsed out systematically about two and a half hours after the chief meal of the day. A little water was left in the stomach after the lavage. The patient always felt relieved and he was then given another meal like the one that had been pumped out. By this means the pain-free periods were much lengthened and by the third day of the salt-poor diet marked improvement became evident and rapidly progressed. He kept up the salt-poor diet for three months, with a weekly lavage of the stomach, and since then he has been entirely well, so that now after twenty-one months the cure may be considered complete. This treatment was equally successful in eight other cases. The patients feel the deprivation of salt less when they are allowed to use a little sodium bromid in its place at meals. Leo in 1904 suggested this method of treating hypersecretion, but soon abandoned it as he did not find it promising. Richartz thinks that his superior results are due to his systematically repeated lavage of the stomach as an adjuvant to the salt-poor diet. The same treatment might apply also to nephritic edema and similar disturbances in which restriction of the intake of salt seems indicated; not more than 3 or 5 gm. of sodium chlorid are allowed during the twenty-four hours.

Deutsche Zeitschrift für Chirurgie, Leipsic

March, CXIV, Nos. 1-3, pp. 1-306

99 Mutation Tumors in Man. (Zur Frage der Geschwulstmutation beim Menschen auf Grund der Histogenese eines sarkomatösen Harnblasendivertikelpapilloms.) S. G. Leuenberger.

100 Fibrous Ostitis with Cysts in Bones. (Zur Kenntnis der Ostitis fibrosa mit ausgedehnter Cystenbildung.) Fujii.

101 *Operative Treatment of Ascites. T. Mori.

102 Etiology of Hallux Valgus. P. Ewald.

103 Teratomas and Mixed Tumors of the Testicles. (Teratome, teratoide Geschwülste und Mischtumoren des Hodens.) A. Vecchi.

104 Osteoclasis in Treatment of Congenital Talipes Equinus in Adults. (Behandlung der kongenitalen Klumpfüsse bei Erwachsenen, unter ausführlicher Schilderung der Behandlungsmethode mittels der Osteoklasten Schultze I und II.) E. Crone.

105 Ileum Graft in Large Intestine. (Ein durch Resektion geheilter Fall von Gangrän des Dickdarms im Gebiete der A. mesenterica inferior nebst einem Verfahren die Kontinuität des Darms durch ein Stück Ileum wiederherzustellen.) R. Faltin.

106 Behavior of Oxygen in Blood During Bier's Passive Hyperemia. (Verhalten des Blutsauerstoffes bei der Bierschen Stauung. Spektrophotometrische Untersuchungen.) F. Gangitano.

107 Deformity of Thorax. (Zur Kasuistik seltener kongenitaler Thoraxdeformitäten.) F. Erkes.

108 Operative Treatment of Fractures. (Blutige Behandlung der Knochenbrüche nach Lambotte.) H. Frankenstein.

109 Chronic Inflammatory Abdominal Tumors. (Ueber chronisch-entzündliche Geschwülste am und im Bauche.) R. Morian.

110 Spontaneous Hemorrhage in Vicinity of Kidney. (Das sogenannte perirenale Hämatoma.) F. Schlichting and G. Ricker.

101. **Operative Treatment of Ascites.**—The aim should be to promote collateral circulation in every possible way and Omi advocates for this omentopexy, splenopexy or nephropexy or all combined, seeking in this way to bring the abdominal organs into closer contact with each other and the abdominal wall. Moti here reports the application of this principle in three cases. In one case of cirrhosis of the liver of malarial origin the outcome was successful; a laparotomy later, undertaken solely on scientific grounds, showed ample adherence between omentum, mesentery, kidneys and abdominal wall with direct transmission of the blood through the posterior parietal peritoneum and indirectly through the kidneys into the vena cava, thus preventing the development of ascites. The two other cases teach the necessity for applying operative treatment as soon as the cirrhosis of the liver is positively diagnosed; the outlook for surgical measures is much less promising when the patient has long suffered from the effects of the cirrhosis.

Medizinische Klinik, Berlin

April 7, VIII, No. 14, pp. 553-594

111 *Injuries of the Knee. (Ueber Knieverletzungen.) F. König.

112 *False Chlorosis in Young Women. (Chlorose und Pseudochlorose nebst Untersuchungen über accidentelle Herzgeräusche.) F. Rolly and K. Kühnel.

113 *Atypical Gastro-Intestinal Cancers. (Ueber atypische Carcinome des Verdauungskanals.) H. Friedrich.

114 The Nose in Relation to Pathology of Other Air Passages. (Die Beziehungen der Nase zur Pathologie des Kehlkopfs und der tieferen Luftwege.) E. Barth.

115 Toxic Substance in Blood of Gravid Rabbits. (Experimentelle Untersuchungen zur Frage der Schwangerschaftstoxämie.) K. Grube and K. Reifferscheid.

116 *Heart Disturbances in Neurasthenics from Distention of Stomach. (Ueber die durch abnorme Magenspannung hervorgerufenen Herzbeschwerden der Neurastheniker.) Roemheld.

111. **Internal Derangement of the Knee.**—König comments on the change in the last few years in the treatment of traumatic effusion or hemorrhage in the knee. Now it is often advised to remove the fluid at once, with immediate active exercise of the joint, even walking with it. He has repeatedly discovered adhesions when the joint had to be exposed on account of disturbances persisting long after the accident had apparently healed, and this finding certainly speaks for the necessity of modifying the old method of treatment by long immobilization. His own practice is now to immobilize the joint in a splint with a compressing bandage permitting massage of the thigh from the first day. The sixth day thereafter he applies general massage of the thigh, leg and knee, with gentle exercise of the leg in bed, then compression again and superheated air. When the effusion has disappeared the patients are allowed to get up, with a bandage. He does not puncture until he finds that the effusion still persists by the end of a week. He has witnessed even old effusions subside under this treatment. He has the patient wear a knee-cap for some weeks longer. If these measures fail, then the trouble is more than a simple tear of the capsule. Some complication in the bones or ligaments is rendered certain by abnormal movability of the joint, a localized tender point, or a characteristic swelling on each side of the anterior ligament. A displaced cartilage may sometimes be reduced by direct pressure, with the knee flexed. Arthrotomy is generally necessary in old chronic cases. In one case a hemorrhagic effusion caused disturbances for months until the split internal cartilage was removed, which cured at once. Kroiss has reported 51 per cent. cured and 31 per cent. materially improved in 246 operative cases. In one of König's cases a scrap of bone torn where the crucial ligaments were attached long caused serious trouble in a man of 46. The knee was immobilized for six weeks, while massage was applied, and the injury healed without the least impairment of function. Operative treatment is unavoidable if the roentogram shows the torn-off scrap of bone still loose. In one case of this kind the patient was still unable to use her limb three months after the accident. Not until the joint was opened wide and the patella sawed through was it possible to find and remove the loose body. Complete recovery followed, but König's experience has shown that conservative measures in the recent cases generally answer the purpose quite as well. Isolated rupture of the lateral ligaments requires a splint with a hinge at the knee when the joint is still loose after two week's or a month's conservative treatment.

112. **Chlorosis and Pseudochlorosis.**—Rolly and Kühnel have frequently encountered in women from 15 to 25 years old a group of symptoms similar to those of chlorosis but without the characteristic blood-picture. This pseudochlorosis may accompany various other affections, especially incipient tuberculosis, but it is often the only morbid condition to be detected. They ascribe it to the internal secretion of the ovaries, spontaneous or the result of some latent disease. The altered secretion acts on the vasomotor or sympathetic system either directly or through the thyroid. In their sixty-two patients they found accidental systolic murmurs in the heart, generally audible over the apex but most distinct over the orifice of the pulmonary artery. These murmurs are not distinguishable from organic murmurs. They cannot be explained by enlargement of the heart or changes in the composition of the blood as the heart and blood were normal in these cases. The altered ovarian secretion evidently reduces the blood-pressure and renders it unstable, but this cannot be the only factor in these accidental murmurs, as even when the blood-pressure was raised by various measures the murmurs did not always subside.

113. **Atypical Cancers.**—Friedrich reports among his experiences in this line the case of a merchant of 26 who suddenly developed symptoms suggesting gastric ulcer; no improvement was realized from treatment on this assumption and he died in four months, the gastric tumor having run an acute malignant course. Another case was distinguished by the unusually slow course of a cancer at the sigmoid flexure. The patient, a man of 68, lived nearly five years after the microscopic diagnosis of the inoperable cancer, and he lost only 6 pounds in four years. In three other cases of gastric cancer there was no secretion of hydrochloric acid but there was excessive secretion of fluid in the stomach. In two other cases a tumor in the rectum was so soft that the suspicion of cancer was averted for a time. Friedrich warns that the soft cancers are generally peculiarly malignant. In another case of advanced carcinoma of the anterior wall of the stomach, profusely discharging through a perforation, a remarkable turn for the better was observed as the apparently moribund patient, a man of 50, was vaccinated with the other inmates of the hospital on account of casual exposure to small-pox. The fistula healed, the tumor shrank to two-thirds of its former size, and the patient felt comparatively well for four months when he succumbed to exacerbation of the malignant disease. The surprising improvement in this case resembles that sometimes observed after intercurrent erysipelas in malignant disease. Such occurrences suggest that the same principle might be applied in treatment, but attempts in this line have not led to any results worth mentioning to date.

116. **Heart Disturbances from Distention of the Stomach.**—Roemheld refers to dyspeptic conditions accompanied by accumulation of gas below the left diaphragm, pushing up the heart. Pal has recently emphasized the injury therefrom in heart disease, but he believes that a normal heart is not disturbed by it. Roemheld on the contrary thinks that in the neurasthenic with sound hearts, the heart, which is generally abnormally movable in this condition, is most seriously affected by this distention of the stomach. He has observed threatening attacks in patients of this class, the disturbances to be explained only by temporary kinking of the vessels. The phenomena observed from the abnormally irritable heart being encroached on by the stomach are more serious than

can be ascribed to reflex or toxic influences alone. The distended stomach pushes the heart into a more horizontal position, the aorta is pushed forward and to the right, the blood-pressure rises, and the first sound becomes impure or there may be a murmur at the apex—all of which subside as soon as the gas in the stomach is expelled. Contrary to the experience with the organic cases, exercise, climbing and deep breathing seem to be the best remedy. Roemheld is convinced that these heart disturbances on a neurasthenic basis, if not recognized in time and warded off, may become permanent and entail organic heart and vascular disease.

Monatsschrift für Kinderheilkunde, Leipsic

X, No. 11, pp. 579-648

117 Experimental Research on Action of Different Kinds of Sugar. (Vergleichende Untersuchungen am Hunde über die Wirkung verschiedener Zuckerarten.) G. Salmont.
118 *Psychic and Organic Impediments to Removal of Trachea Tube. (Ueber psychisch bedingt Hindernisse für das Dekanülement und die Extubation.) I. Wickman.
119 *Secondary Intubation for Organic Stenosis. I. Wickman.
120 Conditions of Irritation in the Sympathetic Nervous System in Infants. (Anteilnahme des sympathischen Nervensystems an den Erkrankungen des Säuglings. I.) F. Boschan.
121 The Pains as Symptom of Epidemic Poliomyelitis. (Die Schmerzsymptome der Heine-Medinschen Krankheit.) E. Tezner.

118. Spasm Interfering with Removal of Tracheal Tube.—In three of the four cases reported by Wickman a psychic spasm of the glottis followed the coughing out of the tube or its removal. In the fourth case the tendency to suffocation following removal of the tube was due to actual organic stenosis. The children did not display unusual sensitiveness to the electric tests. He ascribes the trouble to a "conditional reflex" action. In another case and in one reported by Variot this proved fatal, nothing being found at necropsy to explain the sudden attack of suffocation coming on not long after extubation. He knows of no analogous fatal phenomena in children while they are still wearing the tube. Replacing the tube seems to be the only means at our disposal to cure the disturbances. It may be necessary to remove the tube finally under general anesthesia. Measures to tranquilize and train the child, to relieve it from the dread of suffocation, may prove useful in any event.

119. Secondary Intubation for Organic Stenosis.—The young woman wore the tube for two and a half years in Wickman's case before she was finally relieved from it. Several operations were done in the meanwhile. The tube was worn uninterruptedly for nine months after the last operation. The intubation had been done first for membranous croup and a gangrenous process in the larynx compelled tracheotomy; the various operations afterward aiming to restore normal conditions were finally successful. In conclusion Wickman cites with approval Thost's suggestion to dilate gradually organic stenosis in the upper air passages by means of a series of metal rods of different sizes introduced through the fistula, without interfering with the tracheal cannula which is specially constructed for the purpose. The patients bear the dilatation by way of the tracheotomy orifice much better than by way of the mouth. The treatment by this means can be individualized better, and institutional care or constant oversight is not necessary.

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April, XXXV, No. 4, pp. 469-534

122 *Endogenous Infection in the Puerperium. (Zur Frage der endogenen Infektion im Wochenbett.) K. Baisch.
123 Fibroma and Retroflexion of Gravid Uterus Past Term. (Uterus gravidus mensis X., wegen Retroflexio partialis, bedingt durch subseröses Fibrom, abdominal totalexstirpiert.) C. U. von Klein.
124 Laceration of Umbilical Vein Inside the Abdomen. (Fall von Zerreissung des abdominalen Teiles der Vena umbilicalis.) H. Edelberg.
125 *Rupture of Ovarian Cysts. (Beobachtungen an rupturierten Eierstockscysten.) O. Schaeffer.
126 *Specific Diagnosis of Gonorrhea in the Female. T. H. van de Velde.
127 Salpingitis. (Zur Pathologie und Therapie der Salpingitis.) L. Fraenkel.

122. Endogenous Infection in the Puerperium.—Baiscli discusses whether a parturient under exclusively physiologic conditions, not interfered with from without, can develop severe and fatal infection by spontaneous endogenic agents. He declares that the question can be solved only by careful post-mortem examination in cases suggesting this possibility. Only when it is possible to exclude disease elsewhere in the body are we justified in calling the case an endogenic infection. Büttner has reported an epidemic of unusually severe puerperal infection occurring in conjunction with an epidemic of tonsillitis.

125. Ruptured Ovarian Cyst.—In the case described a virgin of 33, always menstruating regularly, was awakened in the night by a violent pain passing across the lower abdomen. Three months later she was again awakened at night by an attack of pain; this time it radiated to the left hip and upper sacral region. Each attack was accompanied by vomiting. A third attack came on later in the same way but lasted for a week and the physician then consulted removed a left ovarian cyst which had become adherent, with torsion of the pedicle. The retrogressive diagnosis showed that the first attack must have corresponded to a process of necrosis in the cyst wall, with reaction of adjacent tissues, internal hemorrhage in the cyst and rupture on the right side. The second attack corresponded to the strangulation of the pedicle and rupture into the pouch of Douglas. The pains at the third attack were the result of renewed internal hemorrhage in the cyst and traction on the adhesions that had formed each side and on the pedicle.

126. Diagnosis of Gonorrhea.—An unusually low opsonic index generally speaks for gonorrhea and a diagnostic vaccination will decide the matter in dubious cases, although van de Velde warns to extreme caution with the latter. He has found ascites-agar a great help in obtaining pure cultures of the gonococci. Old inflamed ovaries or tubes swell and grow more tender during the negative phase after the vaccination. Recent inflammation forbids the diagnostic vaccination, as exacerbation of the lesions might cause serious trouble. He suggests to begin with a small test vaccination, controlling the findings with the opsonic index. By this means valuable information may be derived without peril to the patient.

Münchener medizinische Wochenschrift

April 2, LIX, No. 14, pp. 737-792

128 *Radium and Mesothorium in Treatment of Cancer. (Behandlung bösartiger Geschwülste mit Mesothorium und Thorium X.) V. Czerny and A. Cano.
129 *Radium Emanation in Internal Medicine. (Behandlung innerer Krankheiten mit Radiumemanation.) W. Falta and E. Freund.
130 *Roentgenotherapy in Gynecology. F. Weber.
131 *Roentgenotherapy in Chronic Metritis. B. Kelen.
132 Improved Technic for Blood Examination. (Der Keilhämometer. Ein Blutkörperchenzählapparat ohne Zahlnetz.) P. v. Grützner.
133 Carbonated Baths with Heart Block: Three Cases. (Kohlensäurebäder bei atrioventrikularen Block.) T. Groedel.
134 Thrombosis in Arm Veins After Repeated Application of Recklinghausen Cuff. (Thrombose von Armvenen durch Blutdruckmessungen.) R. Mohr.
135 *Treatment of Febrile Abortion. (Zur Behandlung des infizierten Abortes.) A. Häberle.
136 Case of Addiction to Scopomorphin. (Fall von Skopomorphinismus.) Franck.
137 *Operative or Roentgen-Ray Treatment of Myoma? (Operationskastration oder Röntgenbehandlung der Myome.) B. Krönig and C. J. Gauss.

128. Treatment of Cancer with Thorium.—Czerny is director of the institute for cancer research at Heidelberg and has had 250 mg. of highly radio-active substances, including 90 mg. of radium bromid, at his disposal during the last seven months, and relates his experiences with them in treatment of 106 patients with cancer, six with angioma and eight with lupus. He found that the mesothorium salt was fully as active as the radium salt, and in some cases seemed to be more active in treatment of superficial tumors. A radiogram of a zinc perforated screen taken with mesothorium bromid with a five seconds' exposure is much more distinct than the radiogram of the same taken under identical conditions with radium bromid. He regards this new method of treatment as promising. The angiomas and the lupus were favorably influenced in every case by the mesothorium, but the eight lymphosarcomas showed no benefit. In four of ten patients with carcinoma of the esophagus, direct application of the salt to the lesion improved conditions so that gastrostomy was rendered unnecessary. In one case of carcinoma of the cheek the mesothorium exposure was apparently responsible for propa-

V. 58 1912

gation of the malignant disease, three operations for recurrence having become necessary during the three months since the exposures.

129. **Radium Emanation in Treatment of Internal Disease.**—Falta and Freund report from the university clinic at Vienna in charge of von Noorden that radium emanation has been applied there during the last year to 192 patients with various internal affections. They state that the effect was unfavorable on neuroses of the vegetative nervous system, and that any tendency to hemorrhage contra-indicates this treatment. Improvement is recorded in seven of sixteen cases of primary chronic rheumatism with effusion, and in fourteen of thirty cases without effusion. The benefit has been permanent in this latter group. No effect was apparent in eleven and the condition became aggravated in two.

130. **Roentgenotherapy in Gynecology.**—Weber reports eighteen months of experience with roentgenotherapy of gynecologic affections at the university clinic at Munich in charge of Döderlein. The best results are attained with this method in climacteric hemorrhages, all but one of the forty-nine patients thus treated being cured thereby. The action is prompter the nearer to the normal menopause. In all these cases the hemorrhages had resisted other measures perseveringly applied. He regards the effect of roentgenotherapy of uterine myoma and of climacteric disturbances as the most brilliant achievements of roentgenotherapy to date, all the hopes first raised by this method of treatment having been realized. It is a close competitor of operative treatment, and has the advantage over the latter of being absolutely free from danger to life.

131. **Roentgenotherapy of Chronic Metritis.**—Kelen writes from the university clinic at Budapest in charge of Barsony to report the application of the Roentgen rays in thirty-eight cases of chronic enlargement of the uterus. In ten cases the treatment has been too recent or the women did not complete the course, but in all the others, with a single exception, a woman with prolapse, the treatment was more or less successful. In fifteen cases the reduction in the size of the uterus after two or three exposures was striking. Three patients required a six months' course of treatment but the subjective relief was pronounced usually after four or five weeks. He found that an abnormally dilated vagina shrank under the influence of the exposures so that the contemplated colporrhaphy became unnecessary. The exposures seemed to have an action preventing conception for about a year. This he says is a favorable factor in treatment of metritis as it gives the uterus time to recuperate. There has been a slight return of hemorrhage in three cases but this tendency was promptly arrested by two or three additional exposures.

135. **Infected Abortion.**—Häberle declares that the results were decidedly better in the cases of febrile abortion in Hofmeier's service when treatment was on the old established principle of prompt evacuation of the uterus. In thirty-three cases the curet was used; in sixteen only the fingers. In two of the thirty cases with temperature over 38.5 C., the women died and three of the sixty-eight with temperature only slightly above normal. Among the ninety-three women dismissed in good condition there were complications later in three, slight thrombophlebitis, slight effusion around the uterus or pyosalpinx in one case each. In 50 per cent. of the cases the temperature returned permanently to normal after the emptying of the uterus; in 33 per cent. after from one to three days, and there was high fever in only one case.

137. **Operative Versus Roentgen-Ray Treatment of Myoma.**—Krönig and Gauss have had extensive experience with roentgenotherapy of uterine myoma and have lately been reexamining the women anew. They state that in four cases a single exposure sufficed for a myoma reaching above the umbilicus. No permanent injurious by-effect is known in any of the women during their four years of experience with this treatment. They remark in conclusion that the breach made in the wall of operative treatment of myoma by the introduction of roentgenotherapy is so wide that it can never be built up again. They add that an incomparably larger proportion of the women sent to them for roentgenotherapy are from physicians' and surgeons' families. The article on the whole is a reply to von Herff's communication on the same subject, summarized in THE JOURNAL, February 10, 1912, p. 448.

St. Petersburg medizinische Zeitschrift

March 28, XXXVII, No. 6, pp. 79-98

138 Operative Treatment of Suppurative Pelvic Disease. (Ueber die Leistungsfähigkeit der Laparotomie bei eitrigen Prozessen der inneren Geschlechtsorgane des Weibes.) T. Dobbert.
139 Pathology of Old Age. (Das Greisenalter.) R. v. Engelhardt.
140 Diagnosis of Typhoid from Temperature, Pulse and Leukocyte Curves. (Lässt sich die Diagnose des Abdominaltyphus aus dem Verlaufe der Temperatur und dem Verhalten des Pulses ableiten?) D. Orudschiew.

Therapeutische Monatshefte, Berlin

April, XXVI, No. 4, pp. 237-308

141 Present Status of Treatment of Diabetes. (Neuere Ergebnisse der Therapie des Diabetes mellitus.) L. Blum.
142 Medicinal Transient and Permanent Rise in Blood-Pressure. (Ueber die Frage der blutdruckherabsetzenden Wirkung von Vasotonin und Gulpsine nebst Beobachtungen über vorübergehende und bleibende Blutdrucksteigerung.) J. Leva.
143 *Serotherapy of Scarlet Fever. (Behandlung des Scharlachs mit Moser-Serum.) B. Schick.
144 *Treatment of Rumination in Infants. (Zur Therapie der Rumination im Säuglingsalter.) E. Mayerhofer.
145 Acute Hemorrhagic Nephritis in Robust Young Sailor After Intravenous Injection of Salvarsan. K. Jastl.
146 *"For External Use." (Sigma "Aeusserlich.") W. Heubner.
147 *Pharmaceutical Manufacturers and the Council on Pharmacy and Chemistry of the A. M. A. (Arzneimittelfabrikanten und Council on Pharmacy and Chemistry in Nordamerika.) W. Heubner.

143. **Serotherapy of Scarlet Fever.**—This communication from the children's clinic at Vienna in charge of Pirquet, where Paul Moser is privat-docent, reviews the experiences of over seven years with serotherapy according to Moser's technic. Schick states that they have been disinclined to publish their further experiences as their report in 1905 met with such a chilly reception, but, he adds, those who have treated the largest number of scarlet fever patients with the Moser serum speak most favorably of it, especially the Russians. Egis-Langovoy has reported that the mortality in 400 cases in which this form of serotherapy was applied has dropped from 7.4.4 to 16.1 and Fedinski with 317 cases found the influence so distinct and pronounced that he cannot understand how any one can be skeptical, on the basis of a small material. Schick says that the serum is made without passage through animals; strains of streptococci from the heart blood of numerous scarlet fever cadavers are cultivated from bouillon and living bouillon cultures are injected into the horses. The great drawbacks of the Moser serum are that it does not keep well and that 200 c.c. are required for an injection; only children under 12 or 18 months are given as little as 100 c.c. The serum cannot be standardized on animals, and hence only the application to scarlet-fever patients determines its relative value. All the ordinary measures are applied as usual in addition. In the mild cases no serotherapy is needed, so it is reserved for the very dubious or malignant cases. The third day of the disease is the latest on which any success from it can be anticipated. The cases best suited for it are those of toxic scarlet fever with only moderate or no involvement of the throat. He gives an example to show the possible benefit in the severe toxic cases in which we are otherwise impotent, but remarks further that this serotherapy does not positively prevent complications although Moser has noticed that the proportion of cases with nephritis seems to be unusually small. No statistics beyond the above are given.

144. **Treatment of Rumination in Infants.**—Mayerhofer calls attention to his prompt cure of the tendency to rumination which was leading to serious inanition in a nervous seven-months' infant. As soon as the usual fluid diet was changed to a thick gruel, the anomaly was corrected at once and the child began to thrive.

146. **"For External Application."**—Heubner calls attention to the paradox that fluids for injection into a vein or under the skin, for enemas and for eye waters, etc., come under the heading "for external use," although nothing gives such an intense *internal* action as when a drug is injected into a vein. This contrast between the actual aim of the medication and the instructions to the druggist for putting up the prescription is comical but unavoidable.

147. **The Council on Pharmacy and Chemistry.**—Heubner says that "The Council of the A. M. A. exerts a strict control over the pharmaceuticals advertised in America. . . . The Council has a sympathetic and appreciative backing, as is shown by the editorial from the *Journal Indiana State Medical Association*, quoted in THE JOURNAL, Feb. 17, 1912, p. 501." Heubner quotes it in full and adds: "It is high time that we German medical men should do more of the dictating ourselves, instead of being dictated to."

Wiener klinische Wochenschrift, Vienna

April 4, XXV, No. 14, pp. 513-550

148 *The Eyes in Tabes. (Tabes und Auge.) E. Fuchs.
149 *Pathogenesis of Catarrhal Jaundice. (Zur Pathogenese des Icterus catarrhalis.) H. Neugebauer.
150 Interposition of Fascia Flap in Correction of Ankylosed Joints. (Zur Verwendung ungestielter Lappen aus der Fascia lata bei der Mobilisierung ankylosierter Gelenke.) D. Pupovac.
151 *Cancer of the Esophagus. (Ueber Exstirpation von Oesophaguskarzinomen am Halse.) J. R. v. Winiwarter.
152 *Direct Sunlight in Therapeutics. (Zur Frage der Heliotherapie.) E. Zadro.

148. **The Eyes in Tabes.**—If the ocular symptoms of tabes show marked fluctuations and changes, they are probably the work of the syphilis itself and hence the prospects of benefit from specific treatment are more encouraging than when the disturbances are due to a parasyphilitic affection—this is beyond the reach of our therapeutics to date. Myosis and reflex rigidity of the pupils speak for tabes, while total rigidity of the pupils or dilatation of the pupil with paralysis of the accommodation apparatus are more likely to be signs of syphilis and hence indicate specific treatment. Simple atrophy of the optic nerve is very frequent with tabes while it is exceptional with syphilis. With tabes the papilla is blanched from the first, while in true syphilis the blanching comes on gradually after the visual disturbances are installed. This opposite course is due to the fact that the trouble in true syphilis is a descending atrophy, generally secondary to syphilitic basal meningitis. The papilla also looks different in this case, showing signs of the inflammatory origin of the atrophy. Benefit from measures addressed to the syphilis differentiate the disturbances as of direct syphilitic origin. The ophthalmologist frequently is the first to discover the tabes. Fuchs adds to the above that tabes develops only in patients whose syphilis ran a mild course; those who have frequent recurrences of symptoms from their syphilis escape tabes. Signs of syphilitic iritis or perforation of the palate are practically never found in the tabetic. Fuchs adds that reflex rigidity of the pupils is one of the earliest and most frequent symptoms of tabes and likewise in many cases of progressive paralysis. This symptom may precede the ataxia by ten or fifteen years. Its special value lies in the fact that it is only exceptionally encountered in other nervous affections. He warns that this symptom may be deceptively simulated by conditions during recovery from ordinary peripheral oculomotor paralysis, but in this case the symptom subsides as recovery progresses.

149. **Pathogenesis of Catarrhal Jaundice.**—The details of forty-five cases are tabulated in full and the mechanism and diagnosis are discussed. Neugebauer thinks that the main factors are insufficiency of the liver plus some mechanical obstruction to the outflow of bile. The liver trouble is generally traceable to some acute or chronic infectious disease in childhood or adult life, venereal affection or possibly abuse of alcohol, heart disease or pregnancy. In 31.57 per cent. of the forty-five cases tabulated the Wassermann reaction was positive. Over 83 per cent. of the forty-five patients reacted positively with galactosuria to ingestion of 40 gm. galactose in tea, fasting. The influence from some digestive disturbance is generally the last straw. The assumption that catarrhal jaundice is due merely to extension of a gastroduodenitis into the common bile duct is untenable, as severe gastroduodenal inflammation may run its course without jaundice. Another reason is that the general symptoms are often too severe to be explained by a simple inflammation of the bile duct alone. He does not discuss the treatment, but his views as to the pathogenesis of the affection indicate the general principles that should inspire it

151. **Cancer of the Esophagus.**—Three cases are described by von Winiwarter and the advantages emphasized of making an opening into the stomach before the operation and feeding the patient through this for as long a time as possible to exclude risk of infection of the field of operation. In the thirty-three cases on record, including the above, seventeen patients died in connection with the operation and twelve from recurrence; the outcome is unknown in three other cases and only one patient was living at last accounts, a year and a half after the operation. The operations evidently were not radical enough; a better outcome would probably be realized if the trachea and regional lymph-nodes were removed too. The lymph-nodes involved are those at the bifurcation of the carotid and in the supraclavicular fossa, in the angle between the jugular vein and the subclavian; the latter are easily reached through a transverse incision.

152. **Heliotherapy.**—Zadro gives the details of thirty-eight cases in which surgical tuberculous affections were exposed systematically to the sunlight. He writes from a seaside sanatorium and states that open lesions healed remarkably promptly and thoroughly under the heliotherapy but that torpid, deep-seated bone or joint lesions did not seem to be influenced by it.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXX, No. 1, pp. 1-372. Last indexed Feb. 17, p. 525

153 *Importance of Rupture of the Membranes During Labor. (Bedeutung der Blasensprengung bei der Geburt.) P. C. T. van der Hoeven.
154 *Pituitary Extract in Differentiation of Pregnancy and Labor. (Wirkung des Hypophysenextraktes zur Differentialdiagnose zwischen Schwangerschaft und Geburt.) W. Benthin.
155 Technic for Gynecologic Laparotomies. (Schnittführung und Nahtmethode bei gynäkologischen Laparatomien.) A. Sippel.
156 *Biologic Sugar Solution Treatment in Gynecology and Obstetrics. IV. (Oertliche Verwendung von Zucker in der Gynäkologie und der Geburtshilfe.) F. Kuhn.
157 *Operative Technic for Vesicovaginal Fistula. (Zur Technik der Blasenscheidenfisteloperationen.) W. Beckmann.
158 Clinical and Bacteriologic Study of Laminaria Dilatation of the Uterus. B. Strauss.
159 *Outcome of Vaginal Operative Treatment of Retroversion of the Uterus. W. Weibel.
160 *Laparotomy in Treatment of Peritoneal Tuberculosis. E. Heimann.
161 Sarcoma of Uterine Cervix. (Das Sarkom des Gebärmutterhalses.) O. Vertes and P. Zacher.
162 *Vaginal Douches During Pregnancy. (Bakteriologische Untersuchungen über die Wirkung von Vaginalspülungen bei graviden Frauen.) P. Esch and F. Schröder.
163 Thyroid Tissue Tumor in Ovary. (Zur Kenntnis der Struma ovarii.) G. Trapl.
164 *The Kidney Functioning in Eclampsia. (Ueber die Nierenfunktion Eklamptischer.) A. Zinsser.
165 Bacteriologic Research on Febrile Labor. (Bakteriologische Untersuchungen beim Fieber während der Geburt.) E. Sachs.
166 Subfebrile Temperature Usual Premonitory Symptom of Puerperal and Postoperative Thrombosis and Embolism. H. Michaelis.
167 *Prophylactic Method of Treating Eclampsia. W. Stroganoff.

153. **Rupture of the Membranes During Labor.**—The importance of the bag of waters for delivery is emphasized by van der Hoeven and the necessity for its rupture at exactly the proper moment. His experience has convinced him that in 50 per cent. of all cases the rupture occurs too soon, in only 25 per cent. at the proper time, and in 25 per cent. too late, while obstetricians do not realize the aid at their disposal from control of the moment of rupture. Among the arguments he pleads for this, is the fact that when the uterus contracts at the sides, the opposite side opposes resistance while the contraction of the fundus above meets with no opposition at the os, if the membranes have been ruptured, and consequently the expelling forces have a free field here which is not the case if the bag of waters is intact. The principles he advocates in normal labor free from complications and the fetus in good position, are to rupture artificially the membranes when the os is dilated to 4 cm. It should always be done during a pause between the uterine contractions and with the woman in the lateral recumbent position, which she must retain afterward to prevent danger of prolapse of the cord. He has managed labor on these principles in 620 of 1,310 primiparæ and 1,827 of 4,236 multiparæ and found that delivery was accelerated, expulsion following in an hour or hour and a half in 50 per cent. of the cases; forceps were required in only 1.1 per cent. of the 4,607 births. He compares these figures

V. 58
1912

with those from a long array of other maternities, the proportion of forceps deliveries ranging with them from 1.04 to 7.9 per cent., only one showing figures below and one the same figures as his. The artificial rupture of the membranes did not cost the life of mother or child in any instance and cervical tears were rather less numerous and less severe than under other conditions.

154. **Action of Pituitary Extract on Uterine Contractions.**—Benthin states that the extract of the hypophysis starts the uterus to contract and if the pregnancy has reached term it may prove a useful oxytocic, maintaining the labor contractions. But if the pregnancy has not reached term, the extract has but a transient action and additional doses have no effect. He says that by this means it is possible to differentiate actual labor from pains occurring in the course of the pregnancy.

156. **Sugar Solution Treatment in Gynecology and Obstetrics.**—Kuhn's claims for the remarkably favorable biologic action of sugar solution in local application were abstracted in THE JOURNAL, Oct. 28, 1911, p. 1499. He here discusses its application in treatment of vaginitis and puerperal fever, saying that the sugar transforms conditions to such an extent that germs which otherwise generate alkaline products become generators of acid. The presence of sugar checks the destruction of albumin by bacteria while no injurious products develop in consequence of the presence of the sugar. Diabetic women seem to escape puerperal fever much more constantly than others. The therapeutic introduction of sugar into the upper birth passages is logical and seems destined to prove an efficient therapeutic measure in incipient puerperal fever. The sugar deposit insures that the birth passages are continually bathed in a stream of sugar and acid which renders all alkaline decomposition impossible and thus prevents and cures infection. He is now working out the technic and remarks that there is no reason why it might not be feasible to fill the uterus with a concentrated solution of sugar as a prophylactic measure after delivery. A 25 or 50 per cent. solution of grape sugar might be used to induce secretion as a kind of self-rinsing. The solution has a prolonged action, antiseptic, antitoxic and cleansing.

157. **Vesicovaginal Fistula.**—Beckmann states that these fistulas are very frequent at St. Petersburg, no less than eleven such patients having required his care during last year. The various technics devised and modified to meet various conditions are described as he applied them in eight typical cases.

159. **Vaginal Operative Treatment of Retroversion of the Uterus.**—Weibel reports 162 patients recently reexamined after operative treatment of the retrodeviation some time ago; 138 other patients had been lost sight of in the interim. The communication issues from Wertheim's clinic at Vienna. Recurrence was observed in 18.5 per cent. of the cases, but in only 15 per cent. of the cases of movable retrodeviation. The operation was by shortening the ligaments with or without fixation. In the cases in which the uterus is not movable, the trouble is a chronic perimetritis with possibly lesions in the adnexa, and hence the conditions demand more radical measures.

160. **Laparotomy for Peritoneal Tuberculosis.**—Heimann reviews his experiences with fifty patients with peritoneal tuberculosis under observation for years after a therapeutic laparotomy. Of the patients with serious disturbances at the time of the operation, 50 per cent. have since died; only 16.6 per cent. are still self-supporting, in good health; the remaining six patients, although still living, are in much impaired health. Of the thirty-two patients who had no or slight disturbances before the operation, only 22.2 per cent. have died since; 38 per cent. are in good health, while 16.6 per cent. have improved and 22.2 per cent. still have symptoms. The longer the interval since the laparotomy the smaller the proportion of patients free from symptoms. The whole material, Heimann remarks, shows that the hope of curing patients by a laparotomy has not been realized in practice, while the complications, fistula, sepsis, etc., render the measure too hazardous for the advantages gained. Reports of series of cases in which laparotomy has been done are of value only when years have elapsed since, in order to ascertain the ultimate outcome. In any event, he adds, patients with objective findings in the lungs, fever and all forms of peritoneal tuberculosis except that with serous effusion, should be excluded from this method of treatment.

162. **Bacteriologic Research on the Effects of Vaginal Douches During Pregnancy.**—Esch and Schröder conclude that the douche should be given before and not after internal examination, and before any operative intervention. By preceding it with the douche the vagina has had so many of its germs washed away that the danger of their transportation inward is much reduced. On the other hand, germs that have been introduced from without are more likely to be carried farther in by a following douche while the chances for their mechanical removal are comparatively slight. They advise further repetition of a gentle douche every ten hours during protracted labor, and for vaginal douches in general they prefer physiologic salt solution.

164. **Prognosis from Kidney Functioning in Eclampsia.**—Zinsser has been studying conditions in regard to retention of chlorids in thirty-one patients with puerperal eclampsia. In all the fatal cases he found a sudden marked decline in the output of chlorids in the urine while with approximately normal findings in regard to the chlorids, even with very severe clinical symptoms, the patients all recovered.

167. **Prophylactic Treatment of Eclampsia.**—Stroganoff states that 800 patients with eclampsia have been treated by his method now in Russia and elsewhere, and that the mortality in his own 400 cases has been only 6.6 per cent. When the method has not been strictly applied the mortality ranged from 9 to 12 per cent. (Described in THE JOURNAL, July 3, 1909, p. 86.)

Zentralblatt für Chirurgie, Leipsic

April 6, XXXIX, No. 14, pp. 457-496

168 Instruments for Resection of Stomach and Intestines. (Eine Magen-Darmquetschzange und instrumentelle Behelfe für die Querresektion des Magens.) E. Payr.

169 Periosteum Flap to Reenforce Herniotomy. (Zur Sicherung grosser Bruchpforten mittels Transplantation freier Periostlappen.) D. G. Zesas.

Zentralblatt für Gynäkologie, Leipsic

April 6, XXXVI, No. 14, pp. 417-456

170 Diagnosis and Operative Treatment of Pelvic Disease in Insane Women. (Diagnose und operative Behandlung der Genitalkrankheiten der weiblichen Irren.) B. S. Schultze.

171 The Electrometrogram. A. Theilhaber.

172 Pregnancy Lines. (Ueber Schwangerschaftsstreifen.) C. H. Stratz.

173 Attempt at Criminal Abortion with Tubal Pregnancy. (Abtreibungsversuch bei Tubargravidität.) C. Knoop.

Gazzetta degli Ospedali e delle Cliniche, Milan

April 2, XXXIII, No. 40, pp. 417-424

174 *The Tourniquet Sign. (Interno al segno del laccio.) U. Morandi.

April 7, No. 42, pp. 433-448

175 Hemolytic and Serum Reaction. (Intorno alla emo e sieroreazione.) B. Vasoin.

April 11, No. 44, pp. 457-464

176 Effectual Serotherapy in Malta Fever. (Caso di febbre di Malta curato col siero Trambusti.) A. Tomaselli.

177 Foreign Bodies in the Eyes. (Diagnosi e trattamento dei corpi estranei intra-oculari.) E. Rollet.

174. **The Tourniquet Sign of Scarlet Fever or Hemorrhagic Disease.**—Morandi has been examining 100 patients with various affections to determine the diagnostic value of the minute hemorrhages in the skin which develop below a ligature applied to the arm. This sign was not positive in healthy controls but was found positive in heart disease, bronchitis, pneumonia, acute hepatitis and nephritis, cerebral hemorrhage, typhoid and puerperal fever and tabes. These findings deprive the sign of any specific diagnostic value. It has been published as pathognomonic of scarlet fever, but it seems to be merely a manifestation of diminished resistance in the walls of the smaller blood-vessels. The claims made for this *signe du lacet* by Frugoni after four years of study were summarized in THE JOURNAL, Feb. 18, 1911, p. 545.

Policlinico, Rome

April 14, XIX, No. 16, pp. 557-592

178 Intravenous Injection of Iodoform in Pulmonary Tuberculosis. One Case. (Iniezioni endovenose di iodoformio per la cura della tisi polmonare?) A. Cerioli.

Riforma Medica, Naples

March 30, XXVIII, No. 13, pp. 337-364

179 Active Immunization of the Goat Against Malta Fever. (Sulla immunizzazione attive delle capre contro la febbre mediterranea.) V. Panto.

180 *Lympho-Adenitis in the Iliac Fossa. (Adeniti e adeno-flemmoni della fossa iliaca.) V. Brun.

181 Traumatic Aphasia in Man of 35. E. Tarozzi.

April 6, No. 14, pp. 365-392

182 Action of Tonics on Heart in Fatty Degeneration. (Azione dei cardiocinetici—digalen, digitale, digitoxina, strofantina —sul cuore in degenerazione grassa.) D. Scalfati.

183 Normal Gastric Functioning Nearly Three Years After Cholecystogastrostomy. (Colecisto-gastrostomia per occlusione cronica del coledoco.) C. Mariani.

180. **Suppuration in the Iliac Fossa.**—Brun reports ten cases in which the suppuration originated in lymph-nodes in children under 10, including two young infants. When the trouble is merely a lymphadenitis, bed rest and weight extension of the leg, as for hip-joint disease, are generally sufficient, with perhaps an ice bag or painting with iodin. Constant supervision is necessary to detect a purulent suppuration. When there is a true phlegmon, it should be evacuated and drained with care not to leave the drain in contact with any vessel. The weight extension should be kept up for a long time, if only at night. The colon bacillus was responsible in the majority of his cases but the *Staphylococcus aureus* was found in one and the streptococcus in the one fatal case, the adenitis in this instance having followed a slight injury to the foot; there was extensive suppuration after ten days. The child died of operative shock.

Brazil Medico, Rio de Janeiro

March 15, XXVI, No. 11, pp. 101-110

184 *Congestion of the Kidneys. (Congestão renal.) J. M. Gesteira.

185 Pyelonephritis. A. Novis.

March 22, No. 12, pp. 111-120

186 *Nephrolithiasis. (Lithiase renal.) G. Moniz.

184. **Congestion of the Kidneys.**—Gesteira discusses the causes, forms and consequences of renal congestion and emphasizes the necessity for measures to restore the balance in the cardiovascular system, with restriction to a milk diet, or better still, to a salt-free diet, supplemented by diuretics according to individual indications.

186. **Urinary Calculi.**—Moniz says that the pains with a tendency to nephrolithiasis are more or less vague and inconstant, generally occurring in both lumbar regions, with headaches and lassitude, while the local pain from a calculus is characteristic. While expatiating on the necessity for general hygiene and dietetics, he warns against severe exercise, inducing sweating, as this increases the production of uric acid while it diverts the fluid from the kidneys to the skin. Moderate exercise, Swedish movements, billiards, stimulation of the skin with dry or alcohol rubs and hot baths are useful. Excessive intellectual work and worry favor the lithiasis. He cites authorities to show that the mineral elements in meat render the urates less soluble, while those of vegetables have the opposite effect. Too large proportions of vegetables, however, induce oxaluria. Tea, coffee and chocolate, beer and wine all aggravate the tendency to stone production and pure water or a mineral water should be the preferred beverage, with at most a little Rhine or Bordeaux wine. Water should be drunk freely, mainly between meals; when the urine is extremely concentrated it may be wise to take some diuretic hot infusion or Luff's "imperial drink," which is a teaspoonful of cream tartar in a half-liter of water. Diuresis is generally effectually stimulated by sipping slowly one or two glasses of hot water containing a little lemon juice, the first thing in the morning and the last at night. Drugs liable to injure the kidneys should be carefully avoided, and no one drug should be used for long at a time. He adds that in case a course of mineral waters is deemed advisable, it is best to go to the springs so as to have the advantage of the radioactivity of the waters.

Semana Medica, Buenos Aires

March 7, XIX, No. 10, pp. 449-500

187 *Echinococcus Disease of the Female Pelvis. (Los quistes hidaticos de la pelvis en la mujer.) J. Salvador.

188 *Stenosis of the Pylorus in Infants. (Estenosis pilorica en el lactante.) M. F. Cotignola.

187. **Echinococcus Disease of the Pelvis.**—Salvador's article is based on seven cases of hydatidiform cyst in the female pelvis. Two of the women were under twenty and thirteen cysts were removed by the abdominal or vaginal route or both. The absence of venereal disease or other pelvic trouble, the slow development of the tumor and its characteristics, readily distinguishing it from other pelvic tumors, permitted the correct diagnosis, especially as echinococcus disease is frequent in Argentina. When the cyst was in the pouch of Douglas the vaginal route was found most effectual. In one case the woman was pregnant but removal of five cysts, three in the lower end of the omentum and two free in the pelvis, did not interfere with the course of the pregnancy.

188. **Stenosis of the Pylorus in Infants.**—Cotignola was able to save by an operation an infant two months old with hypertrophy of the pylorus, but two others died of inanition notwithstanding a gastro-enterostomy in one case and introduction of a tube through the mouth in the other. When the symptoms persist unmodified by medical measures there is generally organic hypertrophy. If the operation is deemed necessary it should be done promptly, before the infant has grown too weak to stand any operation.

Hospitalstidende, Copenhagen

April 3, LV, No. 14, pp. 389-420

189 *Pituitary Extract in Obstetric Practice. (Pituitrin som Ekbolikum.) E. Hauch and L. Meyer. (Pituitrin som vedrivende Middel.) M. Brammer.

189. **Pituitary Extract in Obstetric Practice.**—The therapeutic value of extract of the hypophysis is discussed by these authors on the basis of considerable personal experience as well as recent literature on the subject. They did not observe any unfavorable by-effects except that there was a slight transient infiltration around the point of injection in one case. Two of the women and four of the children died in Meyer's thirty-six cases, but he says that these deaths have scarcely any connection with the injections, although there is a possibility in one case that the increase in the blood-pressure after the injection may have cooperated in bringing on the eclampsia, the first symptoms of which appeared an hour and a half after the injection. The woman was delivered at once but died five hours later. She had kyphoscoliosis and nephritis. The case warns, however, to be cautious with a patient showing a tense pulse or any sign of impending eclampsia. The extract seems to be generally effectual in inducing contractions of the uterus at term and expulsion of the fetus, and it may render forceps delivery unnecessary. Its action before term is uncertain. Hauch declares that the extract may permit a more active management of birth in some cases while in others it will permit expectant treatment to be carried to greater lengths, knowing that we now have this effectual oxytocic to fall back on at need. He obtained such good results with it in four cases of partial placenta prævia that he thinks it may prove of great assistance in such cases, as it aids in arresting the tendency to hemorrhage. Brammer reports his experience with it in twelve cases of which he gives the details. He says that when all goes well the obstetrician feels that his dreams are being realized, but that the action of the extract is irregular and it may induce such violent contractions as to endanger the fetus. Nausea and vomiting were observed in one case five hours after the injection. The contractions may become so violent that a little chloroform may be needed. These and other reasons confirm the necessity for the physician's remaining with the patient for at least an hour afterward. The only contra-indications seem to be an abnormally high blood-pressure from arteriosclerosis or nephritis, and possibly a tendency to nervousness or hysteria as these may magnify the influence on the uterus and lead to too violent contractions.

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